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THE CINCINNATI MEDICAL NEWS.

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ORIGINAL CONTRIBUTIONS.

Foreign Bodies in the External Ear.

BY W. R. AMICK, M. D., CINCINNATI, OHIO.

FOREIGN bodies in the external ear are divided into two classes—the external and the internal—or those which are passed into the canal, generally through the external auditory meatus, and those which are generated or formed in it. Any foreign object in the external ear is of more or less surgical consequence, as its presence is liable to produce irritation and pain, which may be followed by inflammation, suppuration and deafness. Moreover, the foreign particle may, from perforation of the drumhead, as a result of inflammation, from the force with which it passed into the ear, or in attempting to remove it, pass into the middle ear, into the eustachian tube, or into the internal ear. Either of the latter places would be an unpleasant complication.

Under the first head may be classed any animate or inanimate object that is small enough to pass through the external auditory canal. They may get into the canal in a number of ways. The most common form of inanimate objects getting into the ear is when children are playing. The child itself, either to amuse the others, or to gratify its own curiosity, will place a bead or a small pebble into the external meatus, and then it will find its way inward. Its playmates may put something in the ear, simply for fun, mischief, experimental or other causes.

Foreign bodies may be forced into the ear accidentally, or with the intention of doing harm: small insects or bugs are liable to fly or crawl into the ear.

Under the head of internal causes may be cerum, epithelial scales, inspissated discharges when there exists suppuration, blood clot in the traumatic cases, collections of hair from the tragus that have fallen into the canal, and the presence of a fungus called *aspergillus*. Many of the products of suppurative inflammation may properly be classed under this head, including the new formations.

Inanimate objects are often placed into the ear by children who have been deceived. They see a pretended magician, or some other person, pretending to put an object, such as a bead or small pebble, into the ear, and then take it out of the nose. The child then tries to do the same, and succeeds admirably with the first part, but generally requires assistance to have it removed. They do not try the experiment the second time, especially if its removal has given them much pain. Children, in playing, frequently place small beads, pebbles, wads of paper, all kinds of seed, in fact, almost any small object into the ears of their companions. Any kind of a seed in the ear, that is large enough to fill the canal, generally causes considerable pain, as it imbibes the moisture from the canal, then, as it enlarges, it presses upon the lining membrane of the canal, and the *membrum tympani*, causing pain, which in some cases is very severe.

In a very short time the irritation and pain is followed by inflammation and swelling of the contiguous portions of the canal. This renders the operation of removing the foreign substance more difficult. I remember the case of a little girl in which I was called in consultation. Four days previous, while at school, one of the children had placed a bean in her ear. She tried to remove it, but simply pushed it farther down the canal. When she went home the parents, in trying to get it out, crowded it down upon the drumhead. As it did not give any special pain, it was allowed to remain until it began to enlarge from imbibing moisture from the canal. The pain became so intense that she cried continually, and would not allow an examination to be made, much less any attempt at its removal. Ether was given, and the bean seen in the internal portion of and completely filling the canal. Syringing with warm water did not change its position in the least. On account of the swelling it could not be grasped sufficiently with the forceps to effect its removal. The notches of the forceps broke out small pieces, and into

one of the little openings the point of a tenaculum was inserted, and it was turned forward and finally lifted out. In another case, where there was a pea in the ear of a child, it was removed by splitting off about one-third, then using syringe and forceps. In this case, also, the pea had swollen, and was producing considerable pain, so that ether had to be administered.

It must not be supposed, from the two cases just cited, that swelling either of the seed or of the integumentary lining of the canal ensues. In a number of instances foreign particles of this class have remained in the ear for months, and even years, without giving any trouble, and without complaint on the part of the patient. Bennett reports a case where he removed a honey-locust bean from the ear of a negro boy, thirteen years of age, where, he had every reason to believe, it had been for two years. The bean was in a perfect state of preservation, and had given the boy no trouble, who said he had been induced to put it in his ear because he had seen the big boys do the same thing, pretending to remove it through the nose. He had tried the experiment, but failed; but as the inserted bean never gave him any pain he never told any one of it, for fear of parental punishment. It was discovered by examining the ear for comparison with another.

Small pebbles or stones frequently find their way into the ear. A gentleman was passing by a stoneyard, and, being near where one of the masons was dressing a stone, a small scale that was chipped off went into the ear. As it struck with considerable force, it caused pain, which was followed immediately by hemorrhage. On examination, the canal was found to be filled with clotted blood. This was easily removed with the syringe. The piece of stone was readily removed with the forceps and strong illumination. The hemorrhage was caused by a little wound in the posterior and external portion of the canal, where the stone first struck, the sharp edge making a smooth incised wound. This was the only trouble that it had caused, except temporary deafness, which was removed when the canal was relieved of its contents.

There is generally no trouble connected with removing a small stone or piece of iron from the external auditory canal, provided it has simply been pushed or dropped in, and is not imbedded or impacted. The greatest difficulty

is where the stone is so large that it had to be pushed or crowded through the central or smallest portion of the canal. The trouble is enhanced if it is round, as there is little or no chance to form a reverse current behind it, and is very difficult to grasp with the forceps. If it is irregular in shape, then there is a better opportunity offered for seizing it, even if it is large.

In a great many cases there would be comparatively little trouble in removing foreign particles, provided they could be seen by the aural surgeon before they had been crowded down to the drumhead, or even beyond, in attempts at removal by inexperienced parties. But as soon as a person gets a foreign substance in the ear, their friends, who are anxious about removing it, frequently crowd it down upon the membrane tympani, where it causes pain, tinnitus aurium and deafness. In some cases parties being over zealous about removing the particle, have produced pressure sufficient to rupture the drumhead, and push it into the middle ear or eustachian tube.

A boy was brought into the office by his father, who stated that he had a button in his ear. He could see it at first, and tried for some time to remove it. "But," he said, "it had gone down in his head, and he was afraid of the consequences." Under illumination it was seen in the internal portion of the canal, and easily removed with a small hook.

In machine shops the men are liable to get foreign bodies in their ears, and generally call on some of their comrades to remove them. By doing this a few times some one of them will get a reputation among the employes of being expert at removing such particles. When any of the hands meets with an accident of this kind, they apply to their expert for relief. In many cases he successfully removes the particle without doing any damage to the ear. But occasionally we see a case in which permanent deafness in one ear has occurred from ignorance and injury received by the mechanic removing the ossicles under the impression that they were foreign bodies. In such cases mechanic's tools and drills are brought into requisition. He will pass a small drill down to the drumhead, click it on the handle of the mallens, and then call to his comrades to come and listen to the positive proof (?) that there is a piece of metal in the ear. After this satisfactory diagnosis he proceeds to remove the supposed foreign

body. But more than one man is a living, and, I might also say, deaf witness to the fact that the results thus obtained do not warrant such heroic treatment.

A peculiar case of foreign substance in the external ear, that came under my observation, was the following: A young man had been for a number of months working in a soapstone factory. For the past twelve months he noticed that he was becoming deaf, and was troubled with headache. Of late this had been getting considerably worse, and he applied for treatment. On examination I found that the soapstone dust had collected on the drum-head, forming a complete layer over three membranes. In the right ear it was more than a millimeter in thickness. In both ears the deposit was thickest near the periphery, and had nearly the density of the material in its natural state.

Animate objects frequently fly or crawl into the ear. People who sleep on the floor or lie on the ground are very apt to be awakened by an insect getting into the ear. If the insect is so large that it can not turn around in the canal, they often produce the most excruciating pain by scratching, and even biting, the drumhead. It is almost impossible to imagine the amount of suffering and pain that a small insect in the ear will produce. A few months ago a man came into the office, suffering intense pain in the left ear. The pain was not continuous, but occurred at irregular intervals. An examination revealed an object in the ear, which, when removed, proved to be a bed-bug that had crawled into the canal during the night.

Flies occasionally get into the ear, especially in cases of otorrhœa in children. In one case of a little girl I removed three, and in another, a young lady eighteen years of age, I removed a large one that had been in the canal, causing deafness for nine months. The fly in the latter case was surrounded with cerumen, and, with the exception of a portion of one wing, was in a good state of preservation.

A lifeless insect may remain in the ear for an indefinite time without producing any special trouble, providing it does not press upon the membrana tympani. Insects, in some manner, get into the canal, unknown to the patient, and die without causing sufficient trouble for their pres-

ence to become known. They may then remain for an indefinite period.

It would not be supposed that so large an insect as a roach could get into the ear, yet such occurrences are not uncommon. Bakers, who lie upon the floor in their warm rooms, which are generally well supplied with these pests, as many of their customers can attest, are frequently aroused from their peaceful slumbers with a severe warning and intense pain, caused by a roach getting into the ear and scratching upon the drumhead. A few mornings ago a lady called at the office, holding her head with both hands, while every feature of her countenance signified that she was suffering intensely. The trouble was a live roach, eighteen millimeters in length, in the right ear. A few drops of an aqueous solution of amyle nitrite, and the roach was removed. It had been in her ear for more than an hour. When it first got in she went to her family physician, who informed her that he could not remove it. She stated, after it had been removed, that had it remained in much longer, she certainly would have gone crazy. Its removal was very easy on account of its length, and the fact that the solution dropped into the ear killed it in a very few seconds.

In some instances maggots grow in the ear. This generally occurs in warm weather, and in persons having otorrhœa. Flies are attracted by the odor of the discharge, and deposit the eggs, from which the maggots are developed. Heine and Blake have published accounts of the growth of maggots in the ear, and the latter authority has described minutely the apparatus by which these creatures maintain a hold in, and wound the canal and drumhead. The former writer describes a case of a little girl two years old, subject of a chronic otorrhœa, who had gone to sleep in the hot sunlight with the diseased and offensive ear exposed to the incursion of the flies, and in consequence thereof maggots had sprung up in the ear. In the course of a few days, fat, white maggots, with heads spotted black, were seen in the fundus of the auditory canal. Oil was poured into the ear, and as each maggot came to the surface of the oily bath, it was seized with forceps, and thus all trouble was removed from the ear.

Heine states that he has never failed to remove maggots and all living creatures from the ear, by means of

oil, in a very few minutes. But the majority of surgeons have not been so fortunate.

One of the earliest, if not the first case of transformation of the maggot through the various stages to the fly, after its removal from the ear, is recorded by Dr. Kuntzmann, who said, although he had frequently seen and read of maggots in the ear, he was not aware that any surgeon had brought about the perfect transformation of such creatures when found in the ear. The case he reports is that of a boy six years old, the son of a poor woman, who was brought to him on the 17th of July, 1811, for a severe pain in the ear, which had already lasted fourteen days without cessation. Blood pus was found exuding from the external auditory canal, which was greatly swollen. Otherwise the boy was healthy. Twenty-four hours after the boy was first seen, quantities of living bodies were detected in the ear, and six large, fully developed maggots were extracted with the forceps. The pain then ceased, and all symptoms disappeared in a few days with syringing and the use of mild astringents, and the hearing remained perfectly normal. Each maggot was seven lines long and one line thick. They consisted of several soft rings, which fitted one within the other; on their heads they had two brown, horny hooks, curved downward, between which was the so-called dart, which was not like that of the house fly maggot, but curved, yet not so much as the two hooks. This was the only distinctive feature between the two varieties of larvæ.

Two of these maggots were obtained by the author quoted, and placed in a confectioner's glass jar, in which dry and carefully sieved earth and a piece of meat were placed to furnish food for the worms. They did not attack the food, but instantly buried themselves in the earth, and on the second day were found to have passed into the chrysalis state.

The chrysalides were brown, cylindrical, tapering each way to a blunt end, immovable, and consisted of several rings, like all chrysalides of the fly.

On the fourteenth day after their transformation into the chrysalis, fully developed flies escaped from the shells, which were described as very beautiful gray and black flies, with silver-gray head, and beautiful bright cinnabar-red eyes. The bright redness of the eyes was lost after death, and the color then became brown. These flies

were then presented to Count Von Hofmausegg, who placed them in his cabinet, where they proved to be unique specimens, theretofore undescribed. Prof. Illger pronounced them to be a new species of the class *Tachina*, and named them *Tachina signata*.

It is the opinion of a number of writers on otology, that simply syringing the ear will not remove maggots. By means of their hooks they retain such a firm hold to the membrane tympani or sides of the canal, more force would have to be used in this manner than is justifiable, and it is doubtful whether force enough could be obtained from an aural syringe to dislodge them. It is the opinion of Gruber and others that nothing short of actually seizing them with forceps and pulling them away will satisfactorily remove them.

As they are very hard to kill without using a solution so strong that it would injure the ear, a number of experiments have been tried. As a result of this, it was ascertained that kerosene oil would not kill them. One placed in a solution of salicylic acid died in half an hour. Alcohol destroys them in from six to twelve minutes. Sulphuric ether (Squibb) kills them in from two to three minutes, while chloroform requires but a few seconds. In these experiments, the maggots were placed in the fluids mentioned. A peculiarity with some people is, that ether, placed in the external ear, inflames the throat, and I remember in one case in which but one application was made, in which the inflammation and the pain of the faucets lasted for several days. In another, in which a few drops of chloroform were instilled, there was a severe pain, which continued for at least ten minutes, and then gradually subsided.

The vapor of ether or chloroform will kill them, and Labarraque's solution of chlorinated soda has been used with success. The ordinary solution, astringents, etc., commonly employed in otorrhœa, has no special influence on them. Tannic acid and the mild chloride have been successfully used by sprinkling upon them.

Another class of foreign bodies in the ear are those cases in which an instrument of some kind has been thrust in the ear for the purpose of doing injury. In these cases, the membrana tympani is generally ruptured, and more or less deafness remains, if the instrument is large, on account of the damage done to the tympanum,

and in some cases to the internal ear. In the case of a little girl, I removed a pin that had penetrated the drum-head. She had inserted it into the ear, point first, for some purpose, when another little girl slapped her on the hand. The pin passed through the posterior superior quadrant of the membrane, a distance of four millimeters. It caused considerable pain, but was easily removed with the forceps. In another case, a man had been celebrating his birthday, and in the evening, when completely under the "influence of the celebration," he was sitting on a chair asleep. While thus quietly reposing, some of his comrades were amusing the company by placing what they termed the straddle-jack upon his nose, when one of them put a small cork in his ear. This not only caused deafness and pain, but inflamed the canal. Its removal was attended with considerable pain, but the inflammation readily subsided by using a weak solution of zinc sulphate. In fact, it was not necessary to use anything, as in this case, when the cause was removed, the effect would also pass away.

Of foreign bodies originating in the ear, the most common is cerumen or ear-wax. In the majority of cases it is not very difficult to recognize a plug of cerumen in the ear, as there is not much difference in appearance in different cases. In some cases, where there is a thin layer of cerumen pressed down upon the membrana tympani, it may resemble a dark or discolored and thickened drum-head. A close scrutiny of this would reveal a deficiency in this anatomical structure that exists in the drum-head, and correct any error that might have been made in diagnosis. Mistaking a thin layer of impacted cerumen for a diseased membrana tympani, would lead to an error in treatment.

In one case that came under my observation, the patient had been subjected to a course of treatment with caustics, under the impression, I suppose, that it was a fungus growth.

When a patient seeks relief for deafness or pain in the ear, and the drum-head is hidden from observation, then this obstruction should be considered as the cause, and its removal be the first part of the treatment. Should the effect still remain after this, then the examination should be extended to other portions of the ear. We frequently find mistakes in diagnosis, either through neg-

ligence on the part of the physician in not making a thorough examination, or inability to do so by not being provided with the proper instruments that are required in order to make the requisite inspection.

Cerumen, in some cases, accumulates slowly, and with the finger, towel or ear-pick, is gradually forced down upon toward the membrana tympani. I removed a large plug from the ear of a lady who had been deaf for eleven years, this being the only cause. Immediately after its removal she had normal hearing. In other cases the cerumen is formed rapidly, and will produce trouble in a comparatively short space of time. Deafness from this cause generally takes place suddenly, the immediate cause being a sudden jolt or jerking of the body, or by putting something in the ear for the purpose of cleansing it. The latter frequently takes place following a bath, the water assisting by moistening and enlarging the deposit of wax.

Anything that stimulates the circulation in the external auditory canal has a tendency to produce or be followed by an increased secretion of cerumen. Persons who perspire freely are frequently troubled with a free secretion of wax.

In some exceptional cases the deafness arising from this cause is periodical or intermittent. A young physician from Kentucky called on me last summer for deafness and a peculiar, unpleasant sensation which partook of the nature of headache and vertigo combined. He stated that on arising in the morning he would be deaf for a quarter of an hour, and then there would be a relaxation, or, as he described it, a sensation of falling or dropping away from his ears, and then hearing would be restored to last until after he had again retired. This would be repeated every morning. During the day, and especially toward evening, he suffered with headache, which he attributed to driving all day in the hot sun, as he had a large practice. I remarked that it might be due to cerumen in the ears, but he did not think that possible, as he looked upon a collection of wax in the ear as simply negligence in not keeping the ears clean. An examination revealed a large amount of cerumen in both ears, and, when it was removed, there was so much that he accused me of obtaining it from some other source. With the removal of the wax, the trouble ceased.

In cases of sudden deafness from impacted cerumen, it

has generally been a long time in forming, without the person being cognizant of its presence. A physician from Iowa called to see me in regard to what he supposed was commencing aural catarrh of his left ear. He had paid particular attention to the study of diseases of the eye and ear, and could not believe that the trouble was due to cerumen in the ears until after it was removed, and the symptoms of which he had spoken had disappeared. A peculiarity of this case was, that whenever the instrument used for removing the cerumen (the plug was dry and hard, so that it could not be dislodged with the syringe) came in contact with the integumentary lining of the canal, he would be seized with a fit of sneezing. He stated that his wife had the same peculiarity in this respect as himself.

In some of these cases we find that the patient has been in the habit of using ear swabs and picks. A piece of sponge on the end of a twisted wire, called an auralave, is about the best instrument for pressing the wax down upon the membrana tympani that we could recommend. The habit of twisting the corner of a handkerchief or towel, and passing it down the canal for the purpose of cleansing it, is not proper. Any cerumen that might be located along the sides of the canal would be pushed down upon the drumhead.

In most cases of impacted cerumen, the chief trouble is the deafness and tinnitus aurium. Occasionally we meet with cases of acute inflammation developed from this cause. George W. called at our office, about three months ago, for pain in his left ear. Said that he had not been able to sleep for a week, on account of the pain being so intense. This was worse at night, so that he had to walk about in the room. Although a man who was not afraid to go forth in battle and face the enemy's guns, yet his distress was so great, caused by impacted cerumen, that he wept like a child. The external portion of the canal was not only inflamed, but swollen and nearly closed, rendering the removal of the plug more difficult. And to add to this, it was one of those dry and hard masses, that we occasionally meet with, which water will not penetrate. After its removal, which required a few days, the chief cause of pain became apparent. The pressure exerted had caused, not only inflammation and rupture of the drumhead, but forced a portion of the

mass into the cavity of the tympanum, producing intense congestion of the middle ear. And still further, the tympanal extremity of the eustachian tube was also occluded with a small plug. Knowing the delicate and sensitive condition of this part, when in a normal state, is it surprising that he should weep, with a hardened plug driven down upon all these structures, when they were highly inflamed? The after treatment consisted in the use of a mild astringent, and he made a speedy and complete recovery. I saw him last evening, and he stated that he could hear as well with that ear now, as he could before he had any trouble with it.

(To be continued.)

Cholera Infantum.

BY ELLWOOD HARVEY, M. D., CHESTER, PENNSYLVANIA.

WHAT I have to offer on Cholera Infantum is deduced from my own observations, and, as I shall not criticise the opinions of others, I hope not to appear dogmatic in expressing my own.

When our county society was young, more than thirty years ago, desiring to offer something from my own experience, a table was made of all the deaths in my practice, including age, sex, cause, etc. It revealed the startling fact that more than one-half of all the cases died of cholera infantum. I hope that none of you ever suffered such an experience; and I also hope that later successes have atoned for my early failures.

The scene of this tragedy was a healthy, hilly, country place. The cause could not be fairly charged to neglect, nor to indifference; for I studied the medical authorities as Jacob wrestled with the angel, determined not to let them go until they had blessed me with the power of healing. The "break of day" seemed long in coming.

The table of mortuary statistics was not presented to the society, but its facts haunted me as Macbeth was haunted by the ghost of murdered Banquo. Riding the daily rounds of practice, a house would be passed in which had been one of the fatal cases; and, oh, the oppression of sadness with which was recalled every part of its history, including the inefficient treatment! Relief could be

obtained only by calling to memory other cases that had terminated more happily.

Comparisons arranged the cases into classes, and the fact dawned upon me that the recoveries were in the homes of the better class of people, where good nursing had saved the children's lives. Homes where the patients had been kept in cool, quiet, darkened rooms while sleeping, and where they had been fed with judicious care. The fatal terminations were in the homes of those who lived in one room from morning till night; where the heat and odor of a cooking-stove added to the oppressiveness of the hot summer weather; where the floor was not carpeted, nor the windows curtained.

It was sufficiently evident that the difference in results was not due to medicine, but to other conditions which I had not thought of trying to control. It would be tiresome and useless to narrate the progressive steps toward a more successful practice, but I beg leave to offer some thoughts upon the subject which may elicit profitable discussion, if nothing more.

I shall not attempt to describe a disease so well known to you all, but wish to call attention to some of the symptoms, for reasons which you may presently see.

The first are those that point to some disturbance in the brain, such as pulling the ears, clutching with the hands at the sides of the head, throwing the head backward in sleep, sleeping with the eyelids partly open, and with the eyes turned upward. These indicate the beginning of cholera infantum, though there may be no disturbance of the stomach or bowels. The last-named symptoms are but other evidences of brain trouble, and always attend when the case becomes bad enough to develop them. What the pathological condition of the brain may be, is not within the compass of my present purpose; nor is it necessary to discuss the reason why this peculiar cerebral condition is attended by green alvine discharges.

The one essential cause of this disease seems to be excessive heat, either of the weather or of a heated room, which may be aided in either case by too much clothing, and by too much covering over the child when in bed. Other influences may aid the undue heat in developing and continuing the disease; and these are mainly over-feeding and dentition. But there seems to be sufficient

reason for believing that all of the "other influences" together will not cause cholera infantum; and that excess of heat alone may induce it.

I shall not recite special cases to illustrate the treatment to be described, but respectfully beg leave to state that it has been attended by very gratifying results for nearly thirty years.

In the earlier stage of the disease it can be very easily cured, in most cases, by keeping the patient cool, diminishing the supply of food to an amount that can be digested, cutting the gums if they need it, and allowing the patient to drink freely of cool water if it will.

In all cases, whether mild or severe, the child should sleep in a cool, quiet, darkened room in the daytime, and in a well ventilated room at night. Not in a room that had been ventilated some time during the preceding day, but in a room that is ventilated all the night long with air from the outside of the house. No artificial light should be allowed in the room in night-time. The more sleep it has in the daytime the better it will be. Its head should not sink into the pillow, but should be kept cool. There should be no talking in its presence when sleeping, not even in whispers. If this injunction is disregarded the child's brain will not have the needed rest. When awake in the daytime, have it carried out in cool, quiet, shady places. If not too sick to endure the fatigue, carriage riding is also good for these cases. If it is awake and fretful in the night-time, carry it about the yard and garden, talking soothingly to it. The stillness and darkness of the night have a wonderfully calming influence.

It is generally necessary that the physician should, himself, take off the superabundant clothing, and not trust any one to do it in his absence. Take off the petticoat and the flannel bandage, and see that the bandage is kept off. It is always a nuisance after it ceases to be needed as a part of the dressing of the umbilicus. Allow the bowels to have the churning that naturally accompanies every movement of the body, and without which they can not perform their functions well. Of course, cases may occur in which the patient is so much debilitated as to require the application of warmth to the extremities, and in which the clothing can not be safely removed. It is not intended to discuss, now, the subject of cholera infantum exhaustively, but chiefly to call at-

tention to such points as indicate the brain as the prime seat of the disease. There is one point, however, in relation to alimentation, that I would invite attention to. The sick child takes liquid food eagerly, not because it is hungry but because it is thirsty. The digestion is always impaired, and only a small amount of food can be digested. Whether it receives milk from the natural source or from a bottle, the first step in the process of digestion is coagulation, and there the function ceases. The liquid whey being demanded by the system is absorbed, and the curd, not being needed, is ejected by stomach or bowels, causing constant disturbance in the alimentary canal, with which the affected brain sympathizes. The supply of food must be no more than can be digested, for if more than that is taken, all is purged away and none is digested. It may be necessary to reduce the supply down to a tablespoonful, or even a teaspoonful, at a time. To meet the demand of the child's thirst, which is an expression of the want of its system, give it frequently all the cool water it will drink.

The treatment thus far suggested is more hygienic than therapeutic, and is often sufficient to effect a cure, but not always. It is, however, always an important and generally a necessary part of the treatment.

The one thing to which I wish especially to invite your attention, as the most useful and reliable means for controlling cholera infantum, is the use of blisters upon the head.

In mild cases they may not be needed, but in every case the patient is sooner well when they are used. In severe attacks they seem to be indispensable. They should be put upon the denuded scalp, not upon the bare skin, and should be left on until they have done all they can do. If taken off too soon they do very little good, though the cuticle may be raised. The hair must be cut off close to the scalp, and suitable places are the sides of the head above the ears. The physician should, himself, cut the hair off, or it may not be thoroughly done, and then there will be a failure. If the cerate of cantharides is spread thick about as large as a silver dollar, or larger, on surgeons' adhesive plaster, with a margin of plaster to secure adhesion to the scalp, and the adhesive border clipped with scissors toward the center so as to secure a smooth application; and if the plasters are then kept on for eight

or ten hours, there will not be a failure. The serum that discharges upon the neck and ears should be carefully washed off, or it will cause blisters on the bare skin, where they are annoying.

Blisters are slower on the scalp, are less painful, and heal quickly without any dressing, but they are sufficiently efficient. I have never known them to cause strangury. If a crop of boils on the scalp should follow their use, there will be no more cholera infantum while they continue, unless the attending hygienic conditions are very unfavorable. The blistering may be repeated as often as the necessities of the case may demand; and after the first pair it may be sufficient to apply one at a time on the two sides of the head alternately.

In recent attacks, medicines addressed directly to the stomach and bowels never did any good for me. Perhaps because I never found the right thing. If a case has been protracted until there is organic lesion of the mucous membrane, that is a condition which may demand special attention. I have always seen injury done by opiates while the cerebral irritation exists. The comfortable night obtained by their use is dearly paid for afterward.

In conclusion, allow me to say that my practice is based upon experience, and not upon speculative pathology.

ORIGINAL LECTURES.

Echinococci of the Liver and Spleen.

Good Samaritan Hospital.

CLINIC OF PROF. JAS. T. WHITTAKER, M. D.

Reported by A. H. Kelch.

WE have to-day a very interesting case to present to you, gentlemen, in which the disease is situated sub-diaphragmatic:

Diseases that are situated below the diaphragm are not so easily recognized as those that are situated above it. Thanks to the genius of Laennec, we have the means of discovering the exact character of any lesions of the

lungs or heart, and not only to determine their seat and character, but to mark out, to almost an absolute certainty, their extent, describe their complications, and foretell their terminations. As I propose to show you presently, in an extremely interesting case of heart-disease, the slightest lesion above the diaphragm we can recognize at once, but below it all diseases are still involved in obscurity. Such a difference in diagnosis would hardly seem justifiable, for above the diaphragm we have all the organs enclosed in bony walls, while below it, the whole anterior portion is covered only by skin, muscles and peritoneum, all soft structures, easily palpated, and it would seem at a glance that these diseases should therefore be more easily distinguished. Nevertheless, sub-diaphragmatic affections are hard to detect, and chiefly because our main reliance is upon the sense of touch alone. The ear and the eye help us but little.

Let us take this case, now, as it presents itself to-day. Dr. Tackenberg, the house physician, will please read us the history :

HISTORY.

"John M——, aged 26, nativity Ohio, admitted January 6, 1880. At the age of fourteen he had typhoid fever, and, a year later, diphtheria. No family taint or venereal disease.

In 1869, he was struck in the stomach with an iron ladder, a blow which confined him to the house for three months, and for two years after this he was subject to occasional violent cramps.

The tumor in the right side he first noticed in April, 1874. This tumor continued to gradually grow for two years, when, on account of a sudden additional distension over the whole abdomen, he consulted a number of physicians in St. Louis and in this city. The distension was then so much reduced by treatment as to enable him to resume his work. The enlargement then began to grow again, and two years ago he was tapped by Dr. Longworth in this hospital. Subsequently he was tapped again, each time in the liver, with an aspirator, and on each occasion bloody serum was withdrawn. The results of the microscopic examination of this fluid were negative."

Here we have a young man aged, as we hear, about twenty-six. He has undergone, as you see, extreme emaciation, which is especially marked about the face.

You notice, too, at a glance, that he shows an unnatural color. He is decidedly jaundiced. You would see it better in the light of day. For I have frequently taken occasion to tell you that you can not observe jaundice so well by gaslight as by daylight. We must not always look to the liver as the seat of its cause. Many cases are due simply to changes that occur in the blood, especially in the course of infectious diseases. The intense jaundice of yellow fever, for instance, has nothing to do with the liver. It is hematogenic, and is due to disorganization of blood, to partial dissolution of the corpuscles and liberation of the coloring matter. But we would not suspect in this case any changes of the blood, for the reason that the individual before us has not suffered from any infectious disease. We say, then, that the jaundice in this case leads us directly to the liver. The emaciation shows a chronic disease, and the jaundice points to the liver.

The next point that attracts our attention after the emaciation and jaundice, is this great distention of the abdomen. What can be the cause of this great enlargement? You notice it is very uneven. It is not the uniform enlargement of ascites. In fact, the enlargement here is most marked in, we might almost say is confined to, the upper region of the abdomen. Here is also a preternatural dilatation of the veins. You observe they run large and tortuous over the surface of the abdomen, four or five times their natural size. When I put my fingers upon them, I may feel that I displace blood from their lumina, and the very fact that this condition exists would lead us again to some obstruction in the course of the portal vein—would lead us again to the liver.

Let us first decide whether we have, in this enlargement, to deal with solid fluid or gas; and first by palpation. When I place one hand here, low down upon the abdominal wall, and tap with my finger upon the opposite side, I get a distinct sense of fluctuation; then, as I rise to a level of the fluid, I feel it even more distinctly, until finally, when I have risen above its level, I no longer feel it, and now, if I percuss at this point, you have the tympanitic sound of gas. Here is a distension in the region of the loins, and even bulging out on both sides. This proves that there is some free fluid present in the abdominal cavity. Thus we have fluid following the line of

gravity and gas floating above it. If I should stop right here in my examination, I should have to entertain strong suspicions of cirrhosis of the liver in the first stage—a stage which is marked by enlargement of the liver; by dilatation of the superficial veins; by compression of the portal capillaries in the liver, and by the consequent expression of fluid into the abdominal cavity. If I then put my hand over the surface of this tumor, I find it hard and unyielding, additional evidence for cirrhosis, but lobular, uneven, and too immense in size for any degree of this disease. For I observe here the surface of hepatic dullness, to a distance of six inches below the ribs. I sink my fingers into the wall of the abdomen, and come upon another tumor, filling up entirely the left hypochondrium, and a large portion of the epigastrium, extending down to the iliac region, into the pelvis. That tumor is of course, the spleen. We have here, then, a very remarkable enlargement of both the liver and spleen.

It becomes, then, clear, from inspection, palpation and percussion, that we have two large tumors to deal with, which extend over, and fill up, the whole abdominal cavity superiorly, and, so far as our superficial examination goes, we have to deal with enlargement of the liver and spleen.

Now, the question is, What is the cause and kind of this enlargement? It was first noticed, we hear in its history, six years ago. That enables us to exclude cirrhosis at once. Cirrhosis might give us an increase in all diameters of the liver of two or two and one-half inches. In far less time than five or six years contraction would set in, and, instead of a preternatural enlargement, we should find a preternatural diminution in size. Cirrhosis may cause an enlargement of the liver of three inches in the first stages, but never six.

The spleen here is even larger than the liver; it fills up the whole lateral and lower portion of the abdomen. It is as big as the biggest ague cake, but instead of preserving its natural outlines, it is grossly lobulated like the liver. Clearly, then, this splenic enlargement is not malarial in its origin.

What, then, is still left? The next diseases that we would naturally come to consider, are syphilis and cancer. Could syphilis give us such an enlargement as this of internal organs? You have already heard it stated that in

his past history there has been no manifestations of specific disease. But upon the history of the patient in this regard, we place little or no reliance. The liver was the first internal organ in which syphilis was noticed, and it is to this discovery that we owe our knowledge of visceral syphilis. For the sake of making our clinic clear, let us suppose that syphilis might be the cause of this disease. Syphilis does enlarge the liver and spleen by the deposit in their interior of gummatous masses. But visceral syphilis, in gummatous masses, could not enlarge the liver to this extent. It certainly could not enlarge the spleen to such an enormous size as here. Syphilis does not always enlarge these organs. Sometimes, by causing diffuse hyperplasia of the connective tissue, it leads to their contraction. Or, it may enlarge internal organs, and still preserve their general outlines. This it occasions by amyloid degeneration. Here the small arteries are first attacked. Amyloid matter, which is dealkinized fibrin, is deposited in the walls, and is substituted for their natural protoplasm. But to dealkinize the fibrin there must be a drain of the alkaline matter. This is effected by the prolonged discharge of pus, a highly alkaline fluid. If we could find any suppuration here, present or past, we might entertain the idea that the disease is amyloid degeneration. But we discover neither pus nor evidences of syphilis anywhere else in the body, so we shall have to exclude syphilis, I think, from the etiology of this disease. I have dwelt upon it, because the greatest triumphs you will have in the treatment of enlarged livers will come to you through the recognition of a syphilitic genesis of the disease.

You remember the last case I showed you here of enlargement of the spleen. In that individual there seemed to be a clear history of malarial cause, and we put him at once upon the use of antiperiodic remedies. As the case, however, did not improve, we had to abandon this idea, and we found afterward that the cause of the enlargement was a carcinoma of the spleen. Well, primary carcinoma of the spleen is a very rare disease. It is not, however, rare as a secondary affection to stomach carcinoma. And carcinoma would give us a spleen of very great size. There is scarcely any limit to its growth so long as the individual lives, nor is there any limit to the irregularity of outline it may occasion. But there is a

factor here that almost at once enables us to say that this is not carcinoma of the liver or spleen. Our patient is only twenty-six years of age. The age of the individual and the duration of the disease would exclude carcinoma. We could scarcely conceive of carcinoma of the liver or spleen extending over a period of six years. Now, what possible disease can we have here in this individual besides those described? Will some gentleman in the class name this disease? *Ans.*—Echinococcus.

Very good. There is no limit to the time an echinococcus of the liver may exist. It enlarges the liver in all directions, to any possible dimensions, provided the individual is not killed by mechanical effects. It affects the liver notably; while it may be present in any other organ, as the brain, and even the eye, it prefers the liver to all organs of the body, and, next to the liver, the spleen. The source of echinococcus is found in the dog. If we take the 70,000 individuals that compose the population of Iceland, we will find, we are told, 1,500 of them carrying around an echinococcus tumor. There the people and the dogs live in the same house. As the pig is the host of trichina, the dog is the host of echinococcus. But we do not eat the flesh of dogs as of pigs. The eggs of the echinococcus is transferred to man in fondling the dog. They are, indeed, transferred from mouth to mouth, for the most part. Dogs have a frequent habit of approximating the two ends of the alimentary canal, and thus receiving upon the nose and mouth the eggs of this parasite.

What is, then, the proof of echinococcus here? We reach the surest diagnosis, generally, directly. And what are the direct factors indicative of echinococcus? The indirect factors are the organs affected, the character of the enlargement, the age of the affection, and the condition of the patient. While we may reach, by exclusion, a diagnosis in this way, it is not a perfectly safe way. As Oppolzer used to say, because a fruit is not an apple or a pear, it must not necessarily be a peach. The direct factors for a diagnosis we lack. In the first place, there is no hydatid thrill over either the liver or the spleen. Some indistinct fluctuation we do get, but not that feline purring, the *fremissement cataire*, so often described. But, in truth, the thrill is absent in the great majority of cases of hydatid tumor. Finsen never found it once in 255 cases, nor did Wolff in seven cases, and Frerichs says that

it is only present in about half the cases. The vesicles must be numerous and lax to show a hydatid thrill. A unilocular cyst never shows it at all.

The most valuable direct evidence is the detection in the fluid of fragments of the echinococcus itself. Hooklets, scolices, fragments of membrane, any or all, will prove the presence of echinococcus beyond a doubt. Still, in many of these cases, none of these parts may be found, for they become completely destroyed in cysts, whose contents have undergone degeneration. Mosler found fragments only twice in twelve cases. A last point, in direct evidence, is the chemical nature of the fluid withdrawn. Tested by heat and nitric acid, it should not show the presence of albumen. A common cyst, for example an ovarian cyst, will be largely albuminous, because it consists mainly of serum. An echinococcus cyst is watery; it contains organic acids and salts, but is free from albumen, unless, indeed, it be inflamed, as after repeated tapping, when albumen may transude into it from the blood vessels.

We are unable to examine the fluid, which is, undoubtedly, present in this case, because the patient will not suffer the simple operation of puncture even with the hypodermic syringe. He says he has been tapped enough. We will, on another occasion, perhaps, have the opportunity of verifying our diagnosis in this way; at any rate, the case is of great interest, if only from the point of view of differential diagnosis.

SELECTIONS.

Is Phthisis Self-Limiting?

BY WM. PORTER, A. M., M. D.

Read before the St. Louis Medical Society.

It is well known that at a recent meeting of the New York Academy of Medicine (May, 1879), Prof. Flint asserted his belief in the self-limitation of phthisis (*Arch. of Med.*) This assertion was made so forcibly and sustained by such seemingly positive proof, that it has thus far been received without recorded dissent. It being a

subject of vital importance, with all respect for the learned author, we will examine his position from his own standpoint, and cite the cases which he has noted. The deductions that follow will thus be made upon ground already chosen.

Let us, then, gentlemen, receive the evidence purely upon its merits,*forgetting, if possible, the high authority which we call in question. It is, moreover, right that a decision be reached in this matter, for if phthisis be self-limiting, this element must necessarily affect the result in no small degree; but if it is not, then must we look to therapeutic force and hygienic conditions for success.

At the outset, however, I can not but echo Andrew Clarke's just tribute to our author, for he is "one from whom I have learned much; one whose acute powers of observation, whose largeness of experience, deserve the warmest gratitude of every student of pulmonary pathology." We revere and honor Flint; therefore, we shall deal freely and directly with his conclusions.

What is meant by self-limitation? So far as our argument is concerned, the definition given by Prof. Flint is well adapted. "A disease is self-limited when it ends in recovery, irrespective of extrinsic influence derived from either hygiene or therapeutics."

We might also rest our case here, for it will be at once conceded that the rule is, that phthisis does not end in recovery, irrespective of extrinsic influence. To this rule there are few, if any, exceptions—certainly too few to affect the question. To these exceptions, however, our author points, and says they "are amply sufficient to substantiate the statement that in certain cases pneumonic phthisis ceases to be progressive, and may end in recovery from self-limitation." I will endeavor to prove to you, gentlemen, that phthisis is not, and can not be, from its very nature, a self-limiting disease; and will ask you to examine with me briefly, first, whatever in the causation and pathology of phthisis relates to the subject; and, second, the clinical evidence adduced by Prof. Flint to substantiate his position.

Let us at the outset look for a working definition of phthisis. Flint, in the discourse mentioned, considers the "term pneumonic phthisis or pulmonary consumption as applicable to all cases of phthisical disease, exclusive of acute tuberculosis or interstitial pneumonia." Very true.

What, then, is phthisical disease? A wasting, a constitutional disease, "a progression of symptoms, characterized," as Andrew Clarke has it (*New York Medical Record*, Dec. 14, 1878), "by an ulcerative or suppurative destruction of a more or less circumscribed non-malignant deposit in the lung." The great factor back of all local manifestation is, then, the phthisical cachexia. Flint himself (*Prac. Med.* p. 289) admits the pathological fact that the pulmonary invasion is "the local expression of a general or constitutional morbid condition, the latter being the essential disease." He further says, "the great object of treatment, therefore, is the removal of this constitutional morbid condition or the tubercular cachexia. Measures addressed to the pulmonary affection are of secondary importance." How, gentlemen, can we believe that pulmonary phthisis, the local manifestation, is self-limiting, when back of it we have the tubercular cachexia? The author, having taught that phthisis is the local expression of cachexia, yet self-limiting, the deduction must be that the cachexia—this tubercular cachexia—is self-limiting also; in other words, that this condition, with its sequences, has an "intrinsic tendency to recovery irrespective of extrinsic influences derived from either hygiene or therapeutics." Is it any wonder that we turn from the *ipse dixit*, and call for proof ere we subscribe to this doctrine?

Let us glance at some of the causes of phthisis, and see if we can relegate to them a self-limiting tendency. Among these we have inheritability, age, climate, habits of life, poor food and exposure. Now, if from any of these causes—and these are the principal ones—a man has phthisis, is it reasonable to expect a limit from intrinsic influence? And if the man recovers, the cause being removed, is it not to this rather than to self-limitation that the result is due? When a patient with an inherited tendency to phthisis is so strengthened as to resist the advance of the disease, or by care and prudence lives beyond the dangerous decade; or, weakened by an effeminating, changeable climate, seeks a better one, or exchanges a hurtful occupation for one more favorable—there is a cause for the stay of the disease more tangible than "self-limitation." To such a cause will we find most, if not all, recoveries from phthisis are due.

A few words regarding the pathological characteristics

of phthisis. Here I can not serve my purpose better than to again quote from Prof. Flint (*Prac. Med.*, p. 280): "The fact to be especially borne in mind is, that pulmonary tuberculosis is not primarily and essentially an affection of the lungs. The tuberculous products proceed from a prior morbid condition of the system. It is a rational inference that a vice of assimilation is involved in the existing cachexia." Putting aside all disputed points as to the relation of true tubercle to phthisis (Prof. Flint using the terms phthisis and pulmonary tuberculosis in the same sense)—(*Prac. Med.*, p. 271), we have this succession which all admit—cachexia, mal-assimilation, pulmonary invasion. The latter impairs the respiratory function, and thus reacting upon the assimilative, the cachexia is further determined. The patient is thus inclosed in a morbid circle which can only be broken from without. Limitation must result from either repressing the cachexia, restoring assimilation, effecting retrogression of the pulmonary invasion, or all of these together. Tell me, what is there intrinsic in this vicious circle which will cause it to break itself? The rather, each link becoming its own cause, grows stronger through the others, and without intrinsic influence the disease progresses. In the very nature of cause and effect it can not limit itself.

If, then, what we know of the causation and character of phthisis is opposed to the idea of self-limitation, let us examine the clinical evidence adduced in support of this theory.

Prof. Flint, in his well-known work on Phthisis (1875), records six hundred and seventy cases of this disease, among which were seventy-five in which either recovery took place or the disease became latent; and his recent paper is founded upon their histories. Now, gentlemen, it is to those seventy-five cases that we must look for all the proof that has been given of the self-limitation of phthisis. By these, thus far, must the proposition stand or fall. We find that in thirty-one of these cases the statement is merely that "the disease ceased to progress for at least several months, and in the majority of cases for several years." By reference to the record we find that the last examination of each gave evidence that the disease was still present—latent in some, as may occur in phthisis, but not self-limited; for "a disease is self-limited when it ends in recovery," etc., and these had not

recovered. As, according to our author's own definition, thirty-one of these cases have no definite bearing upon the point in question, we are restricted to the study of the remaining forty-four.

As self-limitation is independent "of extrinsic influence, derived from either hygiene or therapeutics," we at once decline the evidence of twenty-one of the forty-four cases, for in all of these pertinent and generally persistent treatment was pursued. Moreover, *three* of these cases subsequently proved fatal, and the last examination showed that at least a third of them had still physical signs of phthisis. We must object to these twenty-one histories as pertinent. The interest now centers in but twenty-three. "In fifteen of these cases hygienic measures constituted the treatment;" but these measures were of such a character as would lead us to hope for favorable results, viz., changes of business, outdoor life, rest, sea voyages, change of climate, etc. These are potent aids, for as Flint says (*Prac. Med.*, p. 290), "out-of-door life is of all measures most important." Now, to prove a disease self-limiting, we must eliminate whatever can be reasonably traced to "either hygiene or therapeutics." These fifteen cases were given the advantage of favorable hygienic conditions, and who shall say they would have recovered without these conditions? Having made use of that remedy which of all others has been found efficacious in phthisis, these fifteen cases are certainly not examples of self-limitation.

CASE I is that of a farmer, who, having in the winter of 1842-'43, expectorated what were thought to be pulmonary calculi, was examined in June, 1843; "the only physical sign noted was feebleness of the respiratory murmur." He was in excellent health thirteen years after. "Prior to the development of the disease the patient had worked very hard on a farm. He left home for several weeks, and, after relinquishing severe labor, engaged in buying and selling new lands in Illinois, a business which required much out-of-door life."

CASE IV.—A physician, aged twenty-eight, had hæmoptysis in October, 1852, and again in January and May, 1853. In May, 1853, he had slight dullness at the right summit, with weakened respiratory murmur and crackling, which accompanied inspiration and expiration. In September, 1854, he reported himself well, "a year after

recovery:" *i. e.*, his recovery must have dated from September, 1853, five months only after the above symptoms were noted. However, we find that in September, 1854, there was still "dullness at the right summit, and the respiratory murmur was feeble."

CASE XIV.—A physician, who had cough, hæmoptysis and slight loss of flesh, was examined October, 1857, and found to have evidences of phthisis at the left apex. Five years later Dr. Flint saw him in apparently good health. He had been drinking beer, living generously, with an abundance of exercise out of doors. It seems that in this case and in number IV, no medicinal agent was used, though the patients were physicians. They both had the influence of riding and driving in the open air while engaged in country practice.

The three remaining cases do, so far as recorded, seem to be instances of recovery from phthisis without medical or hygienic agency.

The other two cases, XX and XXIII, furnish the best evidence in favor of self-limitation, though the record is very short. Two sisters, whose parents, three sisters and two brothers had died of phthisis, were found, one with disease of the left apex, the other of the right. No remedy of importance was given, or change made in the habits of life. Both were well fifteen years after. Again the question may be asked, why was not some form of treatment or change of condition ordered in these cases, as "no effort had been spared to save the lives of their sister and brothers; traveling, changes of climate, together with remedies having been resorted to in vain, although, perhaps, with the effect of retarding the progress of the disease?" With this, however, we have nothing to do. The record is, that these two sisters, for whom nothing was done, alone recovered. Granting that these two cases, and the one and possibly the three preceding ones, show evidences of self-limitation, yet, we again quote from Prof. Flint's paper: "Self-limitation can not be inferred from a single case or a very few cases."

Twenty years ago Prof. Flint advanced the idea of the self-limitation of phthisis (*Am. Jour. Med. Sci.*, 1858). A year ago the question was ably reopened by the same author. The conclusions made, though much quoted, have not as yet, as far as we know, been indorsed by any of the many observers and investigators of pulmonary

disease. Is it possible that in all this time all others have overlooked this most important element in the progress of phthisis, to which attention has so long ago been called? Does not the etiology, pathology and termination of phthisis plainly teach that, without extraneous influence, phthisis is progressive, limited only by death? Clinical evidence is certainly opposed to the doctrine of self-limitation, for we find that even in the large experience of its only advocate, among hundreds of recorded cases, that this doctrine is sustained by but few, and in all fairness we confess a doubt as to the pertinence and value of most of these.

As Prof. Flint has placed the evidence before us, it is the right and duty of every physician to examine it, and to judge for himself. If phthisis is self-limiting, let it be proven so, for with the assertion comes the *onus probandi*. As yet, we must believe that self-limitation is not an element in the character of the disease.

Though unwilling to admit that there is an intrinsic tendency in phthisis to recovery, yet we should not lose sight of the fact that many cases of phthisis respond to judicious treatment and hygienic conditions. In truth, in no other disease is careful scrutiny and constant care more necessary or better rewarded. Even were self-limitation ten times proven, it should not lessen the vigilance and attention which such cases demand. In all cases of phthisis two forces are at work—one aggressive and morbid, with (as we believe) a direct tendency to death; the other defensive and systemic, opposed to and retarding the progress of disease. Whatever method of treatment is pursued, it, and everything connected with it, should tend to the building up of the system, and the increase of the powers of resistance to disease. In this, we believe, is the true limitation of phthisis.

Conjugate Deviation of the Head and Eyes, as a Symptom in Cerebral Hemorrhage and Other Affections.

BY W. H. BROADBENT, M. D., F. R. C. P.

It is very rarely that one makes a single symptom the subject of a clinical lecture; but although, in my systematic lectures, I always describe and explain the deviation of the head and eyes that we see in many cases of

hemiplegia, and occasionally in other affections, there is not sufficient time for its thorough elucidation. I have, therefore, taken the opportunity afforded by two cases, in which this deviation has been observed, to bring the subject before you. It is a symptom which has occupied very little attention in England, but which has been the subject of frequent discussion in France, and, to some extent, in Germany. Vulpian, Lepine, Prevost, and, more recently, Landouzy and Grasset, have written about it, and one of the most interesting monographs I have ever met with on any subject is that by Dr. Prevost, of Geneva, which I hold in my hand. The two cases under observation, by which this lecture was suggested, are as follows: In one of them the symptom was an effect of paralysis, in the other, a phenomenon of spasm. The first is that of a man aged fifty-one, who was admitted on September 16, suffering from choleraic diarrhea of unusual severity. He was recovering from this when, on the 20th, he fell from his chair in a semi-conscious condition with absolute paralysis of the right limbs, while the face was turned over the left shoulder, and the eyes looked as far as possible to the left. On recovering consciousness, the patient was found to be speechless; six days later the deviation of the head and eyes to the left was still marked, but diminishing, and soon passed off. The patient still remains hemiplegic and aphasic.

The other case is also one of aphasia, but there is no hemiplegia. From time to time, however, the patient has transient loss of power in the right arm, but he also has unilateral convulsion of the right limbs, during which the head and eyes are turned to the right—toward the affected side this time, you will see, not away from it, as in the previous case.

The description of this conjugate deviation of the eyes and head as a symptom is very simple. We will consider it first as associated with the common form of hemiplegia. The head is turned toward or over one shoulder, toward which also the eyes are fixedly directed. If you ask the patient to look in the other direction, he may be quite incapable of even the slightest movement away from the abnormal position; sometimes he can get as far as the middle line, or nearly so, with the head and eyes, but no further; and if you place his head straight, the moment it is free it returns into the old position. The two eyes are

perfectly parallel ; there is no squint, except occasionally toward the end of the phenomenon.

In hemiplegia the direction of the head and eyes is always away from the paralyzed side. "The patient is always," as it has been humorously expressed, "looking for his lesion." It is in severe cases of hemiplegia that it most frequently occurs, but how often it is to be met with, and how often it is absent, I have no means of knowing. The cases in which it does occur are those in which the hemiplegia comes on suddenly; scarcely ever when the onset is gradual or slow. Sometimes this lateral deviation enables us to diagnose a cerebral attack—for instance, occasionally a patient is brought to the hospital unconscious, with all his limbs flaccid, and this symptom being present may tell us that there has been cerebral hemorrhage, before we find it out from any other effect. As I shall show you, the symptom has no very definite relation with the position of the lesion. It is not a localizing symptom. The only association is with the suddenness of the attack, and with the severity of the hemiplegia. Still it does not imply any specially bad prognosis, but simply that the attack has been severe at the moment. A very curious fact about it is that it does not persist. In the patient who first called my attention to it here, whom I saw two or three days after his attack, the lateral deviation was diminished, and two or three days later it disappeared; and it is the rule that the deviation is not permanent, but in four days or a week it is completely gone. While it is passing off, a slight squint may be observed—*i. e.*, the two eyes are not altogether parallel in certain positions, but this is by no means usual. Generally the rotation of the head improves first, and later the turn of the eyes. It is precisely this fugitive character of the symptom which requires explanation. The disappearance of the rotation of the head and the deviation of the eyes is not part of a general improvement, or an indication of commencing recovery; it takes place, and the movements of the head and eyes resume their natural character, when the hemiplegia is, and remains, as decided as ever. This remarkable symptom, while it was noted from time to time, obtained no attention whatever till quite recently. As far as I recollect, the first time it was commented on in this country was at the death of Prof. Whewell, of Cambridge, in 1866, in consequence of a fall from his horse, and it is

mainly since then that it has engaged attention anywhere, although previously, as now, it must have been exceedingly common. But, as you all know, in medicine, as in other things, we see only what we are prepared to look for.

So much, then, for the symptom in itself. Now, about the lesion with which it is associated. Most commonly, according to my own experience, this is cerebral hemorrhage, but it is by no means pathognomonic of hemorrhage; the symptom occurs also with embolism and embolic softening, the only condition being that the attack of hemiplegia shall be sudden. So, again, with respect to the seat of the lesion; except that it will be found on the side of the brain toward which the face and eyes are turned, it tells us nothing. The lesion may be in the cortex of the hemisphere, and at any part of the cerebral surface, provided it gives rise to hemiplegia. Usually cortical lesions, attended with hemiplegia, are situated in the region of Rolando, but, exceptionally, we find that lesions quite far back occasion hemiplegia, and this symptom may then coexist. More commonly the lesion is in the oval white center, but still more frequently in the central ganglia at the base of the brain, the corpus striatum and thalamus, in either corpus striatum or thalamus, or when both together are involved, and whether—for here the lesion is mostly hemorrhage—the blood burst into the ventricle or not. Again, lateral deviation of the head and eyes may occur with lesions in the crus and pons and medulla. The lesions in the pons and medulla, as I shall point out, are of extreme interest, and with them the rule no longer holds that the patient looks toward the lesion.

But before I enter into any further details concerning the varieties of its manifestation, I will give the explanation of its occurrence which I advanced in 1866, and which has been confirmed by everything I have seen since. This turns on the hypothesis of the association of nerve-nuclei in the cord, of the effect of which, indeed, this lateral deviation of the head and eyes is a particular case. You will remember what this association of nerve-nuclei, about which I have had to speak so often, is, and how we arrive at it; that in every case of hemiplegia, however complete the loss of power in the limbs may be, there are certain regions of the body in which there is no paralysis whatever. Except for the lateral deviation of

which we are speaking, we have no paralysis of the ocular muscles on the paralyzed side; there is comparatively little affection of the muscles of the face; there is no paralysis of the muscles of the chest, abdomen, or back; or, but for the fugitive rotation of the head, of those of the neck. This remarkable immunity of certain muscles all down the paralyzed side has exercised physiologists a good deal, and it was considered by some sufficient to establish as a principle that the opposite hemisphere and corpus striatum were the motor centers only for the limbs, and had nothing to do with the movements of the face and body; but this explanation would create more difficulties than it removed, and it is certainly not the true one. Now, if you notice the difference between the paralyzed and the non-paralyzed parts in hemiplegia, you will find that those parts are paralyzed which are perfectly independent of corresponding parts on the other side, while those escape which always, or, at least, habitually act together with the corresponding (or other) muscles on the opposite side, and can not be thrown into action independently of them. You all know that you can move the left hand without moving the right, and so with the left leg; but you can not move the left eye and not the right eye, or the left side of the chest or abdomen alone, and you can not throw into action the muscles of one side only of the trunk anywhere. Now, this gives the clue to the immunity from paralysis of which we have spoken. Where the muscles on the two sides of the body are quite incapable of being moved independently of each other, there must be some nervous mechanism which associates their nerve-nuclei in the spinal cord. For instance, the nerve-nuclei for the muscles of the two halves of the trunk, instead of being perfectly independent and distinct, as are the nuclei for the two arms or legs, are connected with transverse bands, so that to all intents and purposes two nuclei are fused together, and we have a common nerve-nucleus for the two sides connected with both corpora striata. If, then, one corpus striatum is damaged, you still have the other, which transmits orders down to this nucleus common to both sides of the body. The corollary of this, which was foreseen in theory, turned out to be exactly true in fact. The same common nerve-nucleus which preserves muscles from hemiplegia makes unilateral chorea or convulsions of any kind bilateral in

exactly the same parts. Supposing you have unilateral chorea, and supposing the right arm and leg to be perfectly quiet and the left in continual jactitations, you will find that the chorea will cross the median line, and affect muscles on the other side exactly at points where the muscles are spared in hemiplegia—it will affect the eyes, and both will be jerked to and fro; in the face, though there is predominant motion on one side, there is chorea on both sides. The abdominal muscles and diaphragm are equally affected on both sides. We thus see that association of nerve-nuclei in the spinal cord is shown both by paralytic and convulsive phenomena.

The symptom we are considering, then, arises from this bilateral association of nerve-nuclei. If we suppose for a moment the two eyes to be one, the lateral movements of which to the right and left are effected by the two external recti, there will appear to be nothing extraordinary that, say in left hemiplegia, the left external rectus should be paralyzed, and that, like the face, the eye should be carried to the right by the unbalanced action of the muscle of the sound side. This is, to all intents and purposes, what occurs, but we have to explain the conjugation of the two eyes. Again, in the rotation of the head, if we leave out of sight all the rotary muscles except the inferior oblique (axo-atloid), the paralysis of the left will permit the head to be turned to the right. But here we have the sterno-mastoid and trapezius of one side co-operating with the inferior oblique of the other, and we have to explain the anomaly of these muscles on the hemiplegic side not merely being exempt from paralysis, but contributing to the rotation. We have, moreover, to account for the fugitive character of both rotation and deviation. The explanation turns, as I have said, on the association of the nerve-nuclei. And here is an interesting point in these two cases: both in the rotation of the head and in the lateral movements of the eyes the association between the nerve-nuclei concerned is not simply transverse, it is oblique.

Let us take, first, the lateral movement of the eyes. We are now concerned not with the up and down movements. We have engaged for the lateral movements the external rectus of the one eye and the internal rectus of the other associated together, and it is the external rectus which takes the lead in looking toward its own side. This

must be the case, because frequently, as you know, when we are looking to one side the nose comes in between the eye of the other side and the object, and as the object is thus invisible to the latter, it can only follow its fellow. Now, the external rectus is supplied by the sixth nerve, the nucleus of which is ever so far down the pons—in fact, it is so blended with the facial nucleus, that the two nuclei are almost confounded together. The nucleus of the third, on the other hand, is at the very top of the pons, and yet, as we can not by any possibility call the external rectus of one side into action without the internal rectus of the other, one sixth nerve and the opposite third must always be associated for this co-operation. But you see the association is oblique, and the fibers which connect the nucleus of the sixth nerve of one side with the nucleus of the third of the other, instead of going straight across the cord, have a considerable length to run. When, therefore, in consequence of some lesion in one corpus striatum or hemisphere, the sixth nucleus can no longer obtain its orders, the impulse from the other corpus striatum, which ultimately reaches it through the associated third, instead of simply passing across the cord, is compelled to travel a considerable distance downward, and the time required for the education of the nerve-fibers in transmission of impulses in the direction the reverse to the ordinary one, is the time during which this temporal lateral deviation of the eyes exist.

Dover's Powder in the Night-Sweating of Phthisis.

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It is a noteworthy fact that pathological sweating may be arrested not only by drugs that exert an inhibitory action upon the sweat-centers, but also by agents that in health promote perspiration.

Dr. Leared speaks highly of the Turkish bath as a remedy for the nocturnal perspiration of phthisis. He says: "The direct action of the bath has been more strongly shown in removing night-sweats than in any other symptom."

M. Vignard, of Nantes, recommends sage tea in patho-

logical sweatings. He records the case of a young man who for many years had suffered profusely from night-sweating. It generally began about two or three o'clock in the morning, and was so profuse that it saturated the bed clothes, and, to a considerable extent, the mattress also. Sulphate of quinine was tried in vain. At length M. Vignard prescribed the following preparation: "Take of chopped sage a large pinch, of water six fluid ounces. Boil the sage a minute or two in water, let it stand to cool, then filter and sweeten to taste." The perspiration ceased whenever the decoction was taken, but reappeared when it was omitted.

The employment of Dover's powder in the treatment of the night-sweating of phthisis is by no means new, and was, it is said, first suggested by Stokes, of Dublin. In 1861, M. Descamps published a paper giving the result of eighteen years' experience of this mode of treatment. The effect surpassed his expectation, the result being uniformly successful, and the sweating being suppressed from the first. "We possess," he says, "several records of cases of phthisis in which the perspiration was arrested up to the period of death. The powder was generally given in the dose of fifty centigrams (about seven and a half grains) in the evening, at different hours, according to that which announced the commencement of the sweating; and not only was it always observed that it prevented this symptom, but it also diminished diarrhea, allayed cough, and predisposed to sleep. It sometimes happened that the powder was vomited. In such cases the dose was divided into two parts; one of which was given in the evening, and the other at night when the patient awoke." Dr. Handfield Jones, referring to M. Descamps' recommendation, says that he has found Dover's powder "materially to check the night-sweats of phthisis." Dr. Hayden, in a paper read before the Medical Society of the College of Physicians of Dublin, March, 1877, speaks highly of this mode of treatment. He gives five grains once or twice in the course of the night. This treatment has been recommended by Dr. Ringer, and by M. Desnos, of the Hospital of St. Louis, Paris. Dr. Theophilus Thompson also mentions it in his lectures on consumption.

During the last two years I have taken notice of fifty-five cases of night-sweating of phthisis treated with Dover's powder. In only five of these cases did the drug

fail to afford some relief. Of the successful cases, thirty-four were men and sixteen were women. With two exceptions they were adults in the prime of life, their ages ranging from nineteen to thirty-six. The cases under treatment represented all stages of the disease. In some there were hardly any physical signs, while in others, both lungs were extensively diseased. In eighteen cases cavities were diagnosed. In fifteen cases both lungs were involved, while in the remainder only one lung was affected, or there were no physical signs. The duration and severity of the night-sweating varied much in different cases, but in all it was well marked. As a rule, the Dover's powder was given only at bedtime, but in a few cases small doses were given several times a day, though without any corresponding advantage. It was found that to do any good five or ten grains must be given, and ten grains usually acted more promptly than five. Smaller doses usually failed, while, on the other hand, there was no advantage in giving more than ten grains. Frequently, for convenience of dispensing, the Dover's powder was administered in five-grain pills, but in many cases the powder itself was used. In most cases the patients, while taking the Dover's powder, had no other medicine, except, perhaps, a placebo of camphor-water or peppermint. In other instances the Dover's powder was not allowed to interfere with the general treatment, the patient taking cod-liver oil, cough medicines, and so on. The Dover's powder acted equally well whether given alone or with other remedies. As a rule, there was an improvement upon the first or second night, but sometimes the sweating did not entirely cease for a week or more, declining gradually in severity. Sometimes the sweating returned immediately upon discontinuing the medicine, but in other cases there was no relapse for a month or longer. In no single instance was the treatment found to do harm. It often, in addition to stopping the sweating, eased the cough, and insured a good night's rest.

ILLUSTRATIVE CASES OF THE USE OF THE DOVER'S POWDER IN NIGHT-SWEAT.—The following may be taken as a fair average example of what Dover's powder can do. It is not by any means an exceptional case, and it would have been quite easy to pick out other cases in which relief was most prompt:

R. W., a bookbinder, aged twenty-six, had suffered from a slight cough for ten months, but it was only during the last three or four weeks that he had any expectoration. He was extremely emaciated, and had lost a stone in weight in six months. He was very feeble, and had great difficulty in doing his work. There had been no hemoptysis. He had suffered from night-sweats for about three weeks, never missing a night. He usually went to bed about ten, and awoke in the early morning covered with moisture. He was so wet sometimes that it left a mark on the sheet where he had been lying. The physical signs were: at the left apex flattening, deficient movement, increased vocal fremitus, dullness, and coarse crepitation; on the right side, impaired resonance and a little scattered crepitation. He was ordered ten grains of Dover's powder every night at bedtime, and a little infusion of quassia as a placebo. For two nights there was no improvement, but on the third night the sweating was much less. On the fourth and fifth nights it was very slight, indeed, and upon the sixth there was none at all. The pills were then discontinued, and, with the exception of one night, there was no sweating for four weeks. It then returned, the patient suffered severely for three or four nights, and then recommenced taking the pills. The sweating was again checked in four nights, the pills were discontinued, and there was no further relapse during the time the patient remained under observation, a period of six weeks longer.

Even in cases rapidly progressing to a fatal termination Dover's powder will keep the perspirations in check.—*London Practitioner.*

Gelsemium in Neuralgia.

PROF. MASSINI, of Basel, recounts his experience of the use of this drug in the treatment of eighty cases of neuralgia of the trigeminus. He prefaces his remarks with a brief description of the physiological action of the drug. Redness of the conjunctiva, pain in the eyelids, contraction of the pupils, double vision, and giddiness, are the symptoms which generally follow the administration of moderate doses. When the dose is increased, slight ptosis, dilatation of the pupil, gasping, languor, and pain in the

limbs, are the usual results. The respiration is not affected. In frogs, on the other hand, a large dose produces paralysis of the respiratory muscles, the heart's action remaining unchanged. In cases of neuralgia of the trigeminus, Dr. Massini gives twenty minims of the tincture every half hour up to three doses, and he finds that the first dose generally affords relief, and that the pain rapidly subsides after a second or a third dose has been taken. He has never found it necessary to exceed sixty minims, and only in one case did this quantity produce unpleasant head symptoms. The cases in which the remedy produces most benefit are those of simple rheumatic neuralgia of the alveolar branches of the trigeminus; in those it rarely fails. It also sometimes relieves the pain remaining after the stoppage of a carious tooth. When there is any inflammatory affection of the bone or periosteum, no good can be expected from the remedy. The medicine may, if necessary, be repeated several days in succession, the active principle rapidly passing off by the kidneys.—*Dublin Journal of Medical Science.*

Renal Inadequacy.

DR. ANDREW CLARK, at a meeting of the London Medical Society, read a paper "On Renal Inadequacy." He began by remarking that he was often painfully struck by the great number of people suffering from ill-health of which no sufficient explanation could be given. There was, he said, no doubt that the progress of knowledge was steadily lessening this ignorance, and explaining, by the discovery of dynamical or statical conditions hitherto overlooked, cases supposed to have their origin in the distant ancestry of the patient, and believed to be practically inexplicable. Some of these cases, he believed, took their rise in a feeble and disorderly nervous system; some in a vicious digestion; some in an imperfectly acting skin; some in unsuitable conditions of life and work; some in abuse of tea, coffee, tobacco, alcohol and other narcotics, and some in the derangement of the chemical changes which accompany and determine assimilation and disassimilation. There remained, he thought, numbers sufficient to demand and reward inquiry. Many of these cases of ill-health found their explanation in deficient

excretion. As examples of this, he mentioned cases of anæmia and chlorosis due to fæcal poisoning, and curable by purgatives. But a far larger number, he believed, were due to a deficient excretion of urinary solids. "By renal inadequacy I mean that state of kidney in which it is unable, without material diminution of quantity, to produce a urine containing the average amount of solids and of a specific gravity greater than 1014." The deficiency of solids chiefly affects the urea and uric acid. The urine was pale, almost invariably free from albumen, and deposited no casts. He did not profess to determine what was the exact pathological state of the kidney; but he conjectured that it was one of slight withering and induration, just as sometimes the skin is found withered, hard, and incapable of producing a true unctuous sweat. This renal inadequacy had, so far as he could see, no characteristic symptoms, and we found it out only by searching for a cause which should be found adequate to the explanation of the patient's trouble. The symptoms and signs most commonly associated with renal inadequacy were flatulent dyspepsia; palpitation, with a very feeble and interrupted capillary circulation; a dry, shiny, waxy skin; numbness, tingling, cramps and pains in the limbs, occasional flushes, worry of brain, and general nervousness; sometimes thickening of the terminal joints of the fingers, and sometimes, but rarely, evidences of gout. One knew in a given case that these symptoms were due to renal inadequacy, not merely because there was a grave deficiency in the excretion of urinary solids, but because whatever diminished that secretion, or whatever added to the amount of solids to be excreted, invariably within a short time aggravated the patient's sufferings. Three things were of great importance in these subjects. They are exceedingly vulnerable; they repair very slowly the damage done by accident or disease; they bear very badly the shock, however slight, of surgical operations—a fact mentioned by Sir James Paget (Clin. Lectures, p. 44). As to prognosis, this state seemed capable of indefinite prolongation without serious secondary injury to the organism. Under unfavorable circumstances and bad management death might occur from some local inflammation, from cerebral or other hemorrhage, or from the so-called pyæmic fever springing unexpectedly out of some, perhaps trifling, surgical operation. He then enumerated

what he considered the special characters and appearance of patients who had been the subject of renal inadequacy for over four or five years: "They have at least a marked and striking physiognomy; they increase in flesh; they become puffy without being distinctly œdematous; the skin becomes drier, more shiny, and yellower; the features swollen almost to distention; the pupils are dilated; the lips and cheeks of a bluish red; the articulation deliberate and somewhat difficult, and the whole intellectual tone and manner subdued and slow." From one side the physiognomy was like that of pernicious anæmia, from another like that of chronic Bright's disease, and yet it seemed distinct from both. As to treatment, much might be done by good management, by which he meant the adjusting of the quantity and quality of the food to the diminished excrementitious activity, the withholding of such agents as directly lessen the secretory power of the kidney, aiding the kidney in its work by making the supplementary excretory organs fulfill that part of the work which the kidney was unable to do, and generally by placing the patient in those conditions which would give the organism the greatest power for resisting the inroads of disorder, and for making sufficient compensation when complete repair was unattainable. The tepid bath, followed by vigorous friction, the use of warm clothing, and the avoidance of passing exposure to cold and damp, with gentle exercise daily in the open air, were indicated. The diet should be light; stimulants should be avoided except to the extent of one glass of claret or other light wine, twice a day. The medicines he had found most useful were small doses of arsenic with reduced iron at meals, and an occasional mercurial alterative. If digestion was disturbed, he discontinued the iron and arsenic, giving the patient bitters with alkalies between meals, and a mercurial alterative every third night for two or three times. He concluded by narrating a case which he first saw some years ago. By a strict adherence to a limited dietary, and by the use of purgatives and diaphoretics, this patient improved so much as to consider himself quite well; whereas, when he was taking food and wine every two hours, it seemed that the more he took the worse he became. A very remarkable fact about this case was that as his supplies of food and wine were reduced, the patient's urine steadily rose in density from 1003 up

to a very fair standard; and in three weeks he left town declaring himself quite well. When seen six months ago this patient seemed and declared himself to be quite well, his only complaint being that he could not relax his dietary without being ill. Dr. C. T. Williams said these cases were generally treated as dyspeptics. He asked whether weight was gained or lost under the restricted diet, whether there was corpuscular deficiency or excess in the blood, or any signs of anæmia. Dr. Gilbert Smith asked whether it was due to renal defect or blood change. Did the kidneys refuse the blood, or did the blood refuse to go to the kidneys? Had these organs been examined after death? Dr. Routh said there was no proof that the author's dictum was correct, and inclined to believe the ailment due to defective assimilation, and, therefore, lessened amount of salts in blood and urine, rather than to renal inadequacy. Dr. Dowse had seen several cases similar to those described by Dr. Clark, but had never examined the kidneys after death. He did not for a moment doubt the existence of such a condition as renal inadequacy. Dr. Symes Thompson agreed that the kidneys must be at fault in these cases. He had not known that a diminished diet could increase the specific gravity of urine. Dr. Ewart wished that we could detect the condition of renal inadequacy before the cases had gone so far as that only a rigid diet would keep them in health. Dr. Andrew Clark replied, urging the facts that proved the existence of such a state as renal inadequacy; that retention of excreta leads to disease, and that in a case he had at the London Hospital nitrogenous diet increased the defective action of the kidneys. Some of the patients gained weight, others lost flesh on the strict *regime*. The blood did not appear abnormal. Apparently normal skin sometimes refused to perspire normally. Why should not a kidney which refused to act yet show no apparent change?—*Lancet*.

THE SALIVA PRODUCED BY THE ACTION OF JABORANDI.—M. Vulpian reported to the Academy of Sciences, that the saliva secreted by patients under the effect of jaborandi, and who had albuminuria, contained three times as much albumen as that of healthy individuals. These observations have been confirmed by experiments conducted by M. Strauss.—*Progres Medical*, Oct. 11, 1879.

MICROSCOPY.

The Structure of Colored Blood Corpuscles.

ALMOST all investigators nowadays agree that the colored blood-corpuscles of birds, reptiles, amphibia and fishes have a nucleus; while in those of man and other mammalia, except in developmental forms, a nucleus does not occur. On this difference, *Gulliver* has founded his division of all vertebrate animals into Pyrenæmata and Apyrenæmata.* But the existence of a nucleus in living corpuscles of oviparous vertebrata has been denied on the one hand; while, on the other, the opinion has been advanced that the mammalian red corpuscles, as well as those of other vertebrata, are, in reality, nucleated.

Not to cite older authors, I will mention that *Funke*† asserts that the nucleus of nucleated blood-corpuscles does not exist during life, but is a product of decomposition after death. Likewise *Savory*, in a paper‡ read before the London Royal Society, urged that "when living, no distinction of parts can be recognized; and the existence of a nucleus in the red corpuscles of ovipara is due to changes after death, or removal from the vessels;" and, furthermore, "the shadowy substance seen in many of the smaller oviparous cells after they have been mounted for some time, is very like that seen under similar circumstances in some of the corpuscles of mammalia." But *Bottcher* has reported|| seeing nucleated blood-corpuscles in the capillaries of living frogs, and more recently *Hammond* saw a nucleus in the red blood-corpuscles of young trout, varying as to age from a day to three weeks, swim-

* "Lectures on the blood of vertebrata" l. c.; in "Journal of Anatomy and Physiology, vol. II.; Proceedings of the Zoological Society of February 25, 1862; and Hunterian Oration, 1863, referred to in "Observations on the sizes and shapes of red corpuscles of the blood of vertebrates, with drawings of them to a uniform scale, and extended and revised Tables of Measurements." Proceedings of the Zoological Society of London for the year 1875. Part III. p. 479.

† *Lehrbuch der Physiologie.* Leipzig, 1863, vol. I. p. 17.

‡ "On the Structure of the Red Blood-corpuscles of Oviparous Vertebrata." Proceedings of the Royal Society, XVII. 1868, 1869. (Read March 18, 1869.) Monthly Microscopical Journal, April, 1869, p. 235.

|| "Untersuchungen über die rothen Blutkörperchen der Wirbelthiere." Virchow's Archiv, vol. 36 (1866), (pp. 342-423), p. 351.

ming in a cell full of water;* and, afterward, also in those of the tail of frog-embryos and in other animals.†

Bottcher has, by numerous methods, and, for a long time, sought to demonstrate the existence of a nucleus in mammalian red blood-corpuscles. In his first publication‡ he gave a historical sketch of the literature of the subject, and described the effects of chloroform, magenta, tannin, and other reagents. He also treated corpuscles with serum of other blood; next|| he placed them in aqueous humor ("methods which alter the red blood-corpuscles as little and as slowly as possible;" afterward§ he treated them with alcohol and acetic acid, and still more recently¶ by means of a concentrated alcoholic solution of corrosive sublimate (methods of "hardening the blood-corpuscles and then extracting the hæmatin from them"). *Freer*, using reflected instead of transmitted light (by means of Wales' Illuminator), affirmed** independently of *Bottcher*, the existence of a nucleus in human blood; and *Piper*†† seems very desirous to confirm *Freer*. *Brandt*, having,‡‡ in the red blood-corpuscles of living *Sipunculus*, occasionally found a nucleus, though usually there is none, thought that, perhaps, the nuclei are unstable formations, which, by slight influences, are produced or made visible, and by others are destroyed or made invisible; on examining a drop of blood from his finger, on which he had before picking placed a little fresh chicken albumen, he usually found in many red corpuscles what he was inclined to interpret as a central

* "Observations on the structure of the red blood-corpuscles of a young trout." *Monthly Microscopical Journal*, 1876, pp. 282, 283.

† "Observations on the structure of the red blood-corpuscles of living pyrenæmatous vertebrates." *Id.*, September, 1876, p. 147.

‡ The "Untersuchungen" just cited, pp. 359, 363, 367, etc., and 376.

|| "Nachträgliche Mittheilung über die Einfärbung rother Blutkörperchen und über den Nachweis von Kernen in denselben." *Virchow's Archiv*, vol. 39 (1868), pp. 427, 435.

§ "Neue Untersuchungen über die rothen Blutkörperchen." *Mémoires de l'Acad. Imp. des Sci. de St. Petersburg*, VII. Ser., t. 22, No. 11.

¶ "Ueber die feineren Structureverhältnisse der rothen Blutkörperchen." *Archiv für Mikrosk. Anatomie*, vol. XIV. (1877), pp. 73-93.

** "Discovery of a new anatomical feature in human blood-corpuscles." *Chicago Medical Journal*, May 15, 1868, and April 15, 1869.

†† "Contraction of Blood-corpuscles through the action of Cold." *New York Medical Journal*, March, 1877, p. 244.

‡‡ "On the nucleus of red blood-corpuscles." *Arbeiten der St. Petersburg. Gesellsch. d. Naturf.*, vol. VII. (1876), p. 129. (In the Russian language.)

nucleus, in confirmation of the observations of *Bottcher*.^{*} More recently *Stowell* has written a communication to corroborate *Bottcher*.[†] And *Stricker* has expressed the opinion that the nuclei of embryonal colored blood-corpuscles of mammals persist as circular thin disks; he argues that these "disks are so large that the body proper of the corpuscle appears on a surface view as only a narrow zone; and that, therefore, except with high powers, the existence of a nucleus is easily overlooked; and he asserts that, by means of objective No. 15, he has, in the blood-corpuscles of man, dog, rabbit and cat. seen the nucleus in both surface and profile views.[‡]

On the other hand, *Schmidt* and *Schweigger-Seidel*, who repeated *Bottcher's* early methods, using especially chloroform as he had done, failed in finding nuclei, and suspected optical illusion.¶ *Klebs* contradicted *Bottcher's* statements as to the presence of nuclei in normal mammalian red blood-corpuscles; but described the occurrence of nucleated red corpuscles in blood taken from the corpse of a child who had suffered from leucæmia, agreeing in so far with a like observation of *Bottcher*.§. *Brunn* said¶ that he had convinced himself that the appearances produced by both of *Bottcher's* later methods are artificial and optical effects, due to action of the reagents on the substance of the corpuscles. And, similarly, *Eberhardt* has come to the conclusion that the remains after the action of different decolorizing reagents, are not nuclei, but stromata deprived of coloring matter; and that a formation, unmistakably a nucleus, has not yet been demonstrated in adult human and mammalian red blood-corpuscles.**

* Bemerkungen über die Kerne der rothen Blutkörperchen. Archiv. für Mikrosk. Anatomie, XIII., 2 (1876), p. 392.

† "Structure of blood-corpuscles." American Journal of Microscopy and Popular Science, New York, June, 1878, p. 140.

‡ Vorlesungen über allgemeine und experimentelle Pathologie, II. Abtheilung. Wien, 1878, p. 438.

¶ Einige Bemerkungen über die rothen Blutkörperchen." Bericht der Königl. Sächsischen Gesellschaft der Wissenschaften, 1887, 190.

§ "Ueber die Kerne und Scheinkerne der rothen Blutkörperchen der Jäugethiere." Virchow's Archiv. vol. 38 (1867), p. 200.

¶ "Ueber die den rothen Blutkörperchen der Säugethiere zugeschriebenen Kerne." Archiv. für Mikroskopische Anatomie, vol. XIV. Heft 3 (1877), pp. 333-342.

** Ueber die Kerne der rothen Blutkörperchen der Säugethiere und des Menschen. Inaugural-Dissertation der medizinischen Fakultät zu Königsberg. April, 1877, p. 30.

APERTURE MEASUREMENTS OF IMMERSION OBJECTIVES EXPRESSED AS "NUMERICAL APERTURE."—Mr. John Mayall, Jun., F. R. M. S., of London, Eng., recently sent us a list of actual measurements of apertures of objectives made by himself expressed by the nomenclature suggested by Prof. Abbe, *i. e.*, "*Numerical Aperture.*" We select a few from the list. The list was prepared for the Royal Microscopical Society, and was printed in the *Journal* of the Society.

	"Numerical Aperture."		
Zeiss's homogeneous immersion (Abbe's formula, 1879)...	$\frac{1}{8}$	.....	1 40
Tolles's oil immersion (1879).....	$\frac{1}{2}$	.....	1 30+
" " " ".....	0	.....	1 30+
" water immersion (1876).....	$\frac{1}{2}$	.....	1 28+
Zeiss's homogeneous immersion (1878).....	$\frac{1}{8}$	.....	1 25+
Tolles's water immersion (1877).....	0	.....	1 20+
" " " " " (1875).....	0	.....	1 20
" " " " " (1876).....	$\frac{1}{8}$	.....	1 20
Powell and Lealand's oil immersion (1879).....	$\frac{1}{8}$	.....	1 20
" " " " " water " new formula (1875).	$\frac{1}{4}$	.....	1 18
Tolles's water immersion (1874) belonging to Mr. Crisp.	$\frac{1}{6}$	.....	1 15+
Powell and Leland's water immersion new formula (1875).....	$\frac{1}{8}$	.....	1 15+
Robert's water immersion (1867).....	$\frac{1}{24}$	.....	1 00+
Hartnack's water immersion (1867) No. 12 =.....	$\frac{1}{21}$	.....	1 00+
Prasmonki's water immersion (1874).....	$\frac{1}{32}$	.....	1 00+
Güldlach's water immersion (1874).....	$\frac{1}{16}$	.....	1 00+

The above list does not include those immersion objectives, by various makers, which yielded measurements of balsam angle notably less than $82^\circ = 1.00$ nm. ap). The signs + indicate in which direction the measurement tended.

San Francisco Microscopical Society.

THE regular meeting of the San Francisco Microscopical Society was held Thursday evening, December 4, 1879, an unusual number of members present. The business commenced early, with Vice-President Kinne in the chair.

A very interesting paper was sent in by Melville Atwood, Esq., and read by Vice-President Kinne. Specimens of rock sections accompanied the paper, which were shown and explained by the Secretary. Mr. Atwood's paper was on "The Importance of a Classification of Metalliferous Veins."

Of all the speculative employments, mining is, perhaps, the most uncertain. Miners of great experience and ingenuity are frequently at fault, and sometimes completely

defeated in their search after paying ore-bodies, and the mines abandoned, while men of less ability have afterward worked the same mines, from which they have derived large profits—so that any plan or method which tends to throw light on the subject, and assist the miner in his explorations, should be considered of value.

The proper classification of metalliferous veins or lodes appears to me to be one of the first things required.

Some rocks are of a coarse and simple structure, and their mineral constituents may be resolved by the unaided eye, but by far the greater number are of so fine-grained texture as to defy ocular analysis, so that for their determination the use of the microscope is indispensable.

Last year I had the pleasure of calling your attention to a simple mode of preparing rocks for examination of the *outer* surfaces with the assistance of a common pocket magnifier, which I then thought would be of great assistance to the miner, in helping him to correctly determine the character of many of the enclosing rocks, and in many instances it was quite sufficient; but for a *correct* determination, after all, the microscope must be used, and at that time a cheap and easy way to cut the rock-sections was the difficulty I had to contend with. After many experiments, I found a simple plan by which it can be done at little cost and labor, by the use of a few emery stones, or blocks, of different degrees of fineness—say, from one and a half to two inches square, and eight or nine inches long—the same as I have brought here for your inspection. The chips to be cut should be first made as thin as possible; the plan recommended by Mr. Rutley, to use a cold-chisel, the end let into a block of wood, and then by holding the specimen on the edge of the chisel, and striking it a sharp blow with a light hammer, will generally give you a satisfactory chip. The chip must then be rubbed on the emery blocks, with water, till you get a good, even surface on one side of it, commencing with the coarse emery blocks first; then, with Canada balsam, fasten the smooth surface of the chip to a common glass slide, which is done by heating the slide over a spirit-lamp and then applying a small quantity of the balsam. As soon as the balsam liquefies, press the smooth surface of the chip into it, and then allow it to cool. The balsam is better to be dried, so that you can use it like a stick of sealing-wax. As soon as the slide and chip are cold, you can

commence to rub the outer, or rough, surface of the chip attached to the slide on the emery blocks until you get it nearly thin enough for mounting. To finish, use the fine, smaller blocks, as you would a file. You can hold the section up to the light and examine it during the operation. Mount and cover the section with thin glass, in the usual way.

GLEANINGS.

A CASE OF EAR-SNEEZING, by Jas. Russell, M.D., is reported in the *British Medical Journal* of December 13, 1879.

An explanation of the prominent phenomenon in the following case, viz., the constant attacks of sneezing through two days and nights, occasioned apparently by acute inflammation of the middle ear, will be found in a short paper by Dr. Lockhart Clarke on the Phenomena of Ear-cough, in the number of this journal for January 15, 1870. Were argument needed for transferring the reasoning therein from the process of coughing to that of sneezing, the concluding sentence of that paper would afford it: "With regard to the anatomical connection and the mechanism by which I have shown that impression made on the vagus and on the incident fibers of the tri-facial and spinal nerves, may call into action the whole class of respiratory muscles, see my memoir." It appears, also, that some sudden change within the cavity of the tympanum in my patient, a change followed by instant deafness, acted upon the heart, through the inhibitory influence of the vagus, and produced fainting. It is also worth noting that there was no vertigo present, the labyrinth having probably escaped. I have commented on another occasion upon the distinction between vertigo and fainting, in connection with a case of the so-called gastric vertigo.

A man, aged fifty-six, nervous temperament, an out-patient of the Birmingham General Hospital, was in his usual health a fortnight ago, when he was suddenly taken with "a kind of gaping and sneezing;" the gaping seemed to come from his heart. The sneezing was incessant during the next two days and nights; "he could not tell the quantity of times he sneezed." At last, in the afternoon

of the second day, after a dreadful sneezing fit, he tumbled down, and was unconscious for two or three minutes; on recovering he was completely deaf, so much so that, not knowing what had happened, and crossing the street soon afterward, he narrowly escaped being knocked down by a passing vehicle. On the following afternoon he began to hear on the left side, but the sound seemed "to come the contrary way;" if from the front, it appeared to come from behind; if it started from one side of the street, it appeared to come from the opposite side. Ever since, he has been "in agony" from a thumping through the ears, like a pulse beating very quickly, with a constant whizzing and a flutter in the ears. When the thumping ceased, "it was like a toothache behind the ears." He has not had any cough or vertigo whatever. Dr. Malet, our house physician, examined the ears for me, and found the left ear full of wax; this having been removed, it appeared that both tympana were acutely inflamed at the attachment of the ossicles, the right very severely, being almost in a state of suppuration. After syringing, I found that the patient distinguished a faintly ticking watch only within three-quarters of an inch of his left ear; a loudly ticking watch, at eight inches. On the right side he heard nothing, even when the watch was applied to the ear or to the cranium.

REMARKS ON THE ROUTINE USE OF THE OPHTHALMOSCOPE IN CEREBRAL DISEASE.—*Edinburgh Medical Journal*: In this pamphlet Dr. Hughlings Jackson again draws attention to the importance of ophthalmoscopic examination in cases where symptoms which might be referable to cerebral disease are present. The habit of examining the optic discs in all such cases is the more important, as frequently no clue is afforded by the state of the patient's vision, which may be perfect even although an evident and even an extreme degree of optic neuritis exists. This fact the author not only strongly insists upon as a conviction derived from his own extensive observations, but quotes like statements from the writings of Graefe, Manthner, Liebreich, Carter, Wecker, Albutt, and others. He relates a case in which tumor and cyst of the right lobe of the cerebellum was found after death, and remarks: "For some time this patient had only three symptoms, the three so often found together, viz., headache, vomit-

ing and double optic neuritis. Now, at the most important state of the case the third symptom (optic neuritis), as I have said, would not exist for those who do not use the ophthalmoscope *by routine*. Without it the diagnosis would have been erroneous. It is true that from *very* severe headache and vomiting we may *guess* intracranial tumor; but who *would* ever guess it in a perfectly healthy-looking, blooming girl, who was in good flesh, and occasionally apparently absolutely well. This, indeed, is the *beau-ideal* of a case to be mistaken early in its course for 'disease of the liver.' How often do we hear of amaurosis, caused by 'bilious fever!' To encourage such a mistake was the fact that the girl had always been subject to 'bilious attacks.' Another mistake would be hysteria. Of these mistakes neither could be made if the patient's optic discs were looked at. We did look at them, and from what we saw we were absolutely certain that there was intracranial disease, and we predicted tumor." With reference to the treatment of optic neuritis, when taken in time, Dr. Jackson says: "In all the cases I have seen of recovery from optic neuritis, the patients had taken large doses of iodide of potassium. Whether they would have recovered if left alone, that is, whether sight would have failed, I can not tell. My belief is, however, that iodide of potassium administered in the earliest stage of optic neuritis would save many from blindness. It can, of course, do no good for the tumor, unless it be syphilitic, but it does, I think, for the inflammation of the optic nerves."

INTRA-UTERINE VACCINATION AND SMALL-POX.—From the *British Medical Journal*.

In a note on this subject in the *Journal* for November 22d, reference was made to the case of intra uterine vaccination quoted by Dr. Bollinger as recorded by Dr. A. S. Underhill, of Great Bridge. It may be of interest to state that this case was one in which a lady, revaccinated when eight months pregnant, the resulting pocks being very large and full of lymph, was delivered of a child which was vaccinated at the age of three months with fresh, carefully taken lymph. No effect whatever was produced on the arm; and, about a month afterward, the child was again vaccinated, particular care being taken to well rub in the lymph; but the result was again unsatisfactory.

Dr. Underhill's explanation was, that the vaccine virus, thoroughly pervading the system of the mother, had directly influenced the child, and made it not susceptible of taking again the virus. To this view Mr. Burton, of Birmingham, objected (*Journal*, Vol. I, 1875), observing that, when he had charge of the Birmingham Small-pox Hospital, he practiced vaccination in several instances upon women at various stages of pregnancy, and he had not a single case of unsuccessful vaccination among the children.

An analogous case of a somewhat striking kind, though relating to variola instead of vaccinia, is recorded by Dr. Cory in the last volume of St. Thomas's Hospital Reports. A woman gave birth, on December 14, 1877, to a child at full time. On June 13th previously, and consequently when about four months pregnant, she had been admitted into the Small-pox Hospital at Hampstead, suffering from an unmodified attack of small-pox. On May 21, 1878, she brought her child to the Surrey Chapel station for vaccination. She was then deeply pitted, and had lost most of her hair. The child showed no evidence of having had the disease. It was vaccinated, with the result of having five good characteristic vesicles, which went through a regular course, except that the areola on the eighth day was well developed.

NATURE OF THE YELLOW FEVER POISON.—Dr. H. D. Schmidt, pathologist of Charity Hospital, New Orleans, has had numerous opportunities for investigating the nature of the poison of yellow fever. He takes a decided stand against the germ theory, claiming it to be a disease depending, like small-pox, scarlet fever, measles, etc., upon a specific poison of animal origin, a product of the diseased human organism itself. In support of this position, he adduces the immunity from a second attack, which it possesses in common with all other specific diseases. The pathology of the disease also distinguishes it from those affections in which *contagium vivum* has been found, for in the place of the venous congestion, ecchymosis, softening of the spleen, and loss of coagulability of the blood, which are characteristic of this class, we have arterial congestion, normal spleen and retained coagulability of the blood, although the latter has been erroneously reported as lost. In severe cases hemor-

rhages may take place from different mucuous membranes, but hemorrhagic effusions into the interior organs are but seldom observed. The most characteristic phenomenon, however, is the fatty infiltration or degeneration constantly met with in a number of organs. The poison emanates from the body of the affected individual only in the gaseous form, and in this form may be absorbed by another individual, or, adhering to clothes, bedding, etc., may be transported to distant places, and there become other centers for distribution. As in the case of putrefaction, septicæmia, *the poison increases in intensity with each individual through whom it passes*; explaining the fact that the fatality of the disease increases as the epidemic advances. No bacteria, or other living organisms, are found in the blood of patients in any state of the disease. The prevention of disease involves the interesting and unsettled question of quarantine, and the perfect isolation of the first cases would certainly appear to be the most important sanitary measure.

ON ACUTE LEUCOCYTHÆMIA OCCURRING IN DIPHTHERIA.—Prof. Bouchut made daily enumerations of the blood-corpuscles in all the cases of diphtheria that came under his observation within a period of six months, the number of analyses amounting to one hundred and seventy-seven, and from the results obtained he has deduced the following conclusions: In severe septicæmic diphtheria there is always an acute leucocythæmia, which increases as the disease progresses, and diminishes when convalescence sets in. On the other hand, in the mild cases of diphtheria without septicæmia, there is no leucocythæmia, and the children always recover. In twenty-four cases, studied day by day throughout the whole course of the disease, the number of white globules varied between 5,000 and 10,000 in twelve out of ninety-three analyses, and between 10,000 and 100,000 in the other eighty-one, the average being 26,824. Prof. Bouchut insists on the necessity of daily examinations of the blood, as the number of white globules may be normal in one day and greatly increased in the next. He claims that valuable prognostic data may be gathered from these examinations, a rapid increase of the white globules indicating the occurrence of septicæmia, and pointing almost positively to a fatal termination, while a persist-

ence of the normal relations between the red and white globules indicates a mild form of the disease, and almost certain recovery.—*Gazette des Hopitaux*, February 18, 1879.

PHLEBOTOMY IN DERMATOLOGY.—*British Medical Journal*: Certain skin diseases are relieved or cured by blood-letting when other remedies fail. For instance: an elderly gentleman, formerly a great sportsman, and accustomed to good but not extravagant living, was attacked, when near seventy years of age, with a most troublesome form of eczema (*rubrum*), which soon became the torment of his life, allowing him no rest either night or day, and was repulsive to his natural sense of cleanliness and neatness of person. He was treated for some time at home without relief, and then went to London, and was under the care of one or more of the most famous dermatologists then in town for several weeks; he returned home without having received any permanent benefit. He became almost worn out with irritation and disappointment, when it occurred to a neighboring retired medical man that it might do good to bleed him, and to this he consented; but at first no blood would escape from the wound, afterward a little flowed of the consistence of thick treacle, and at last some of a more fluid character was obtained, with the result, in short, of a complete cure. He lived to be eighty-two years of age, and never had any return of his skin disease.

LEGAL POISONING.—We are somewhat reluctantly induced to publish an account of a case which is of the greatest moment to the public and to the profession. The facts are these: An American lady, two years back, applied to a well-known West-end physician. She was supplied with two prescriptions; one for a pill containing one grain of opium, another for a mixture of chloral and bromide, ten and fifteen grains respectively. Neither of these doses could for a moment be called excessive, and the mixture was only to be taken at bedtime. But what was the result? Once in possession of these documents, the unfortunate lady set herself to work to procure unlimited quantities of the two medicines by making use of the same prescriptions over and over again, first at one shop and then at another, often procuring double quantities. Death and an inquest followed. Once, apparently,

procure a prescription for any noxious or poisonous drug, for whatever purpose, and ever after this same drug is at the command of any one who may be able to lay hands upon the prescription! There are frequently ordered mixtures containing such substances as aconite, strychnine, prussic acid, or belladonna, to say nothing of opium, which once out of the physician's hands are at the will of the world. Nay, more, it is a well-known fact that if a certain prescription has done good to one, it may be circulated among the members of the family or kindly friends in the neighborhood. Surely under such circumstances it is grossly unfair to hold a physician answerable for what may happen. Were the property in the prescription vested in the physician, such things could not occur. Were the medicines dispensed, as in olden days, by the practitioners themselves, that could not occur. The mischief arises solely from the hiatus which now exists between physicians and chemists, whose interests, taking this case for example, do not seem to be identical. The physician would prefer to give a fresh prescription and receive a fresh fee; the chemist undertakes to save the physician's guinea to the patient by constantly dispensing the same prescription; and if one will not do it another will.—*Medical Times and Gazette*.

THE WISDOM OF THE PAST.—The following are quoted by the *British Medical Journal* from among the graduation theses, which were defended with a great display of eloquence, in the fifteenth and sixteenth centuries, in Paris, at the Medical School, Rue de la Bucherie. The answer to each question is affirmative. Does Venus beget and expel diseases? Are the plague and venerie affections of divine origin? Is wine good for healthy individuals, as well as for invalids? Ought patients, sick with fever, to prefer a fish diet to a flesh diet? Has the plague been sent down from heaven? Has the moon any influence on the humors of the body? Do mineral waters make women more fruitful? Are short women more fruitful than tall women? Is wine the milk of old age? Is Aurora the friend of Venus? Can a toad be begotten in a man? Is it healthy for old people to put themselves into a passion? Are heroes given to melancholy?

DR. WARLOMONT'S VIEWS UPON ANIMAL VACCINATION.—Condensed from the *Medical Times and Gazette*: "In

my view animal vaccination should have no tendency to forcibly supplant vaccination from arm to arm. They are in fact two sisters, and must not be separated. . . . Vaccination from arm to arm, strong in its ancient rights, is, and will long remain, the greatest strength against small-pox, and nothing ought to be omitted to encourage and regulate it. Animal vaccination ought now only to be its faithful auxiliary, but an auxiliary so useful that it would be as unjustifiable to pass it by as to desire to upset suddenly the classical method." Dr. Warlomont does not believe that lymph degenerates by passing repeatedly through the human body. He admits that he did himself, some years ago, bring forward the idea that the vaccine lymph may deteriorate after long humanization; but, he says, at the present time nothing proves to him, nothing tells him, that lymph can degenerate. The assertion that it deteriorates has been made, but its truth has not been proved; and he pertinently inquires, "Have small-pox or syphilis lost their vigor by lapse of time?" Of the possibility of the transmission of syphilis by vaccination there can be no doubt, and such a possibility assuredly ought to be guarded against.

GONORRHŒA.—Bauer's method of treating gonorrhœa—based upon the theory that it is purely a local disease, the protecting layer of epithelium being thrown off, and the epithelial cells converted into pus cells and discharged, leaving the mucus membrane exposed—is simply the use of a bland injection, which is followed by immediate relief to the pain, and usually results in a cure in about six days, as follows:

Inf. flax seed, ζ vi.

Watery ext. opium, gtt. xvij.

Mix.

To be injected warm every three hours and retained for a few minutes.

CASTOR OIL—"CHILDREN CRY FOR IT."—Surgeon-Major Starcke, in a Vienna medical journal, has stated that by mixing with castor oil as much raw sugar as will convert the whole into a thick, muddy consistence (about three parts of sugar to one of oil is necessary), flavoring with a little cinnamon or other spice, children will swallow the medicine eagerly. "They will struggle," he says, "for

the favor of licking the spoon." The dose for adults prepared in this way is so great that he recommends in preference the addition of a little compound liquorice-powder to the oil (about one to two), to make boluses, which are easily swallowed.

ANÆSTHESIA AT ST. BARTHOLOMEW'S.—In this hospital, adult patients are not chloroformed, but are anæsthetized with a mixture of ether and nitrous oxide. It is claimed that this mixture works more quickly, and with less discomfort to the patient than pure ether. The anæsthetic is administered with an inhaler, which consists of a mouth-piece, connected by a rubber tube with a reservoir which contains the anæsthetic, and is arranged so that any desired portion of air can be admitted. Chloroform is given, however, to patients under fourteen years of age, and it is not considered dangerous to children.—*John B. Wheeler in the Boston Medical and Surgical Journal.*

ELECTRICITY IN AMENORRHEA.—Electricity Dr. Golding-Bird considers the only direct emmenagogue we possess, and that it always excites menstruation where the uterus is capable of performing that function. Electricity is especially valuable as an emmenagogue in young women, where the menstrual function has not yet been fully established in consequence of a torpid state of the vasomotor nerves of the ovaries and uterus; and also when the catamenia have been suppressed after labor, or in consequence of a chill or emotion.

GLEET.—We agree with Dr. Will (*Edinburgh Med. Jour.*) in recommending as the best and safest of all remedies for the cure of gleet "the passage once or twice a week of a cold, well-oiled metallic bougie, combined with the internal use of cantharides or ergot."

BALSAM OF PERU IN PRURITUS.—Dr. Auerbach, in *Deutsche Med. Woch.*, has for some time treated pruritus by this substance, and with the greatest success. After the first rubbing in to the part, great relief is obtained. Cure results in a few days.

NOTES ON QUININE.—The consumption of quinine for the past year is estimated at 220,000 pounds, valued at \$9,600,000. The United States takes over 88,000 pounds, nearly two-thirds being home manufacture.

BOOK NOTICES.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. Playfair, M. D., F. R. C. P., Professor of Obstetric Medicine in King's College, etc. Third American Edition, revised and corrected by the author. With Notes and Additions by Robert P. Harris, M. D. With two plates and one hundred and eighty-three illustrations. 8vo. Pp. 643. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$5.00.

This work is one of the very best works on midwifery for medical students or practitioners, either in the English language or any other language. If inquired of by a medical student what work on obstetrics we would recommend for him, as *par excellence*, we would undoubtedly advise him to choose Playfair's. It is of convenient size, but what is of chief importance, its treatment of the various subjects are concise and plain. While the discussions and descriptions are sufficiently elaborate to render a very intelligent idea of them, yet all details not necessary for a full understanding of the subject are omitted. In referring to it, it is not necessary to hunt through many pages to find the desired information, in consequence of the prolixity of the writer, but the conciseness of discussion and absence of verbiage enables one to come at once to what he wants.

The profession of this country have exhibited their appreciation of the merits of the work in that this third edition has been called for in less than a year from the time the second edition was issued. This edition has been carefully revised for this country by the author himself, at the solicitation of the publisher. In those matters in which American opinion and practice differ from England, the editor, Dr. Harris, has concisely but plainly set forth the former. The statistics of the United Kingdom have been compiled especially for this work, while those of the United States will be found the most complete that have hitherto been collected. The entire work has been subjected to a careful revision, and has had introduced into it a notice of the more important recent additions to obstetric science.

The publisher, Mr. Henry C. Lea, has gotten up the work in handsome style as regards type, paper and bind-

ing. The first is clear, distinct, and easily read, while the paper is the very finest quality of double-sized and calendered.

THE STUDENT'S GUIDE TO DISEASES OF THE EYE. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital. With 89 illustrations. 12mo. Pp. 369. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. Price, \$2.00.

This work will be appreciated by students who are in attendance upon college medical lectures and clinical lectures of hospitals. The object of it, in fact, is to supply students with information they most need while engaged in public instruction. It is *multum in parvo*, containing all the leading points to be remembered in the pathology, description and treatment of diseases of the eye. It will be found especially valuable in preparing for examinations. Practitioners will find it convenient as a work of reference, when they wish to refresh their memories in respect to the features of some affection.

ANALYSIS OF THE URINE, WITH SPECIAL REFERENCE TO THE DISEASES OF THE GENITO URINARY ORGANS. By K. B. Hoffman, Professor in the University of Gratz, and R. Ultzmann, Docent in the University of Vienna. Translated by T. Barton Brune, A. M., M. D., and H. Holbrook Curtis, Ph. B. 8vo. Pp. 269. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co. Price, \$2.00.

The translators of this little work explain as a reason of their undertaking its translation, that they wished to supply a need which has long been felt by American students and physicians—that they do not know of a single work in the English language where, in a concise form, so many valuable suggestions and practical hints are offered, both as regards analysis and diagnosis.

The work is undoubtedly a very superior one of the kind, and we have no hesitation in cordially recommending it for the purpose for which it has been prepared. Besides an introduction, it contains eight chapters. Chapter I. treats of Histology of the Urinary Organs; chap. II., The Excretion of the Urine; chap. III., The Urine; chap. IV., Quantitative Determination of a Few of the Constituents of the Urine; chap. V., Reagents and Appa-

ratus for the Approximative Determination of the Urine Constituents; chap. VI., Key to the Approximative Analysis of the Urine; chap. VII., General Diagnosis; chap. VIII., Diagnosis of the Diseases of the Urinary Apparatus. In the back of the book are a number of very beautiful colored plates.

The third chapter is especially full and complete in its details, giving a general description of the urine and its physical characteristics, and then treating of its chemical composition, sediment, etc. In this chapter the mode of testing for the various constituents is fully explained.

At a future time we may make some extracts from it in our "Microscopical Department."

MINOR GYNECOLOGICAL OPERATIONS AND APPLIANCES. For the Use of Students. By J. Halliday Croom, M. B., M. R. C. P. E., F. R. C. S. E., Lecturer on Midwifery and the Diseases of Women at the School of Medicine, etc. 12mo. Pp. 106. Edinburgh: E. & D. Livingstone, 57 South Bridge. Price, \$1.75.

This little work will be found especially useful to medical students and young practitioners. It gives very full descriptions of all the minor operations of gynecology and indications for them; also an account of the treatment of many of the minor lesions of the female generative organs. It will be found a most convenient little book for reference, and should be in the hands of every student and young physician.

A MANUAL OF THE PRACTICE OF SURGERY. By W. Fairlie Clarke, M. D. (Oxon.), F. R. C. S., late Assistant Surgeon to Charing Cross Hospital. Third edition, revised and enlarged, and illustrated by 190 engravings on wood. 16mo. Pp. 443. New York: G. P. Putnam's Sons. Price, \$2.00.

We bespeak for this little work on surgery an immense popularity with students. It is just such a work that has been for a long time needed, and just such a one that we have been wishing for a long time to be issued, and been surprised that it has not been prepared. Of a size that it can be carried in the pocket (the size of the page being only 16mo.), yet all the *essentials* of surgery are mentioned, and sufficiently full, too, to impart a very correct idea. We feel assured that the student having it,

especially one in attendance upon lectures, will always be carrying it with him, that he may consult it and refresh his mind whenever there is a convenient moment; for, whether walking or riding, as in a street-car on the way to hospital or college, or sitting down awhile anywhere for a moment, it can be drawn forth and its pages glanced over. It is not to be compared to many of the little and almost worthless anatomical remembrances, for it contains satisfactory instruction in all the departments of surgery. It can be referred to both by student and practitioner, as to description, pathology, diagnosis and treatment.

A SYSTEM OF MEDICINE. Edited by J. Russell Reynolds, M. D., F. R. S. With Numerous Additions and Illustrations. By Henry Hartshorne, A. M., M. D., formerly Professor of Practice of Medicine in Medical Department of Pennsylvania College, etc. In three volumes. Volume II., Diseases of the Respiratory and Circulatory System. 8vo. Pp. 935. Philadelphia: Henry C. Lea.

In the last number of the MEDICAL NEWS—December—was published a notice of the first volume of this truly magnificent work. We now have the pleasure of announcing the issuing of the second volume.

We will here repeat what we said in noticing the first volume: that "Reynolds' System of Medicine," the product of the best minds in the medical profession, must take the position of being the leading work on the principles and practice of medicine in the English language. As stated by the editor, Dr. Henry Hartshorne, it presents within as small a compass as is consistent with its practical utility, such an account of all that constitutes both the natural history of disease and the science of pathology as shall be of service in either preventing the occurrence, or detecting the presence, and guiding the treatment, of special forms of illness. To those physicians who desire a very complete work, one that treats minutely of all forms of disease—history, pathology and treatment—we very cordially recommend it. To the American and English physician we think it will be found preferable to "Ziemssen's Cyclopaedia," as the writers of it better understand the wants of such, while the price of it is very much less.

The contributors to the present volume are Drs. Francis E. Anstie, Henry C. Bastian, J. W. Begbie, H. Beigel, J. Hughes Bennett, J. Syer Bristowe, C. H. Fagge, Wilson Fox, W. T. Gairdner, W. R. Gowers, H. Hartshorne, W. M. Grailly Hewitt, Sir Wm. Jenner, Morell Mackenzie, W. Murray, T. B. Peacock, R. D. Powell, J. R. Reynolds, F. T. Roberts, Hyde Salter, Francis Sibson and Wm. Squire, Esq.

The work, we believe, is to be sold by subscription. The price, per volume, is \$5 in cloth binding, and \$6 in leather. The third and last volume will be issued shortly.

THE STRUCTURE AND OTHER CHARACTERISTICS OF COLORED BLOOD CORPUSCLES. Investigations laid before the New York Academy of Sciences, December 16, 1878, and before the New York Academy of Medicine, March, 1879. By Louis Eisberg. New York: G. P. Putnam's Sons. Cincinnati: R. Clarke & Co. Price, 25 cents.

This is an octavo pamphlet of forty-nine pages, and contains much information highly interesting to the physiologist. The discovery of red corpuscles in the blood was one of the first results of microscopical study over 200 years ago. Since that time no other constituent of the body has been more frequently examined. Nevertheless, their structure has not heretofore been ascertained. Our author attempts to settle the matter, and an account of his investigations will be found of interest—the manner of carrying them are especially useful and interesting.

EDITORIAL.

NEW VOLUME.—The present number begins a new volume of the MEDICAL NEWS—the *thirteenth volume*. From the beginning (January 1st, 1868) to the present time, not a number has failed to be issued. It may now be fairly regarded as among the old journals. How very many journals in that time have sprung up, and after leading a feeble existence for two or three or more years, have passed away. Not a few of them have been of very considerable merit, but for some cause or other they failed to obtain enough patronage to live.

We are happy to say that the NEWS continues to main-

tain its prosperity. The number of its subscribers increase from month to month, and daily do we receive laudatory letters and expressions of good will. We are under no necessity, as some of our confreres seem to be, to indulge in spread-eagle boasting to impress any one, or to make statements that are not true. The NEWS retains its old friends and secures new ones without any such assistance. The progress it has made has been by its own merits. It has never been under the necessity of buying up old subscription lists of defunct journals. Its wide-spread circulation, extending from the cities of the Atlantic to those of the Pacific, and on beyond to Australia, is preserved by its own inherent power, and not by any extraneous aid.

PRISON REFORM AND CHILD SAVING.—That excellent old gentleman and distinguished philanthropist, Rev. Dr. E. C. Wines, died recently, very suddenly, in New York. Just previous to his decease, he had put in type a book, giving the result of his eighteen years' research and travels, entitled "The State of Prisons and of Child Saving Institutions in the Civilized World." We have not had the pleasure of seeing the book, but we have heard some accounts of it, and came across, a few days ago, some extracts from it which have interested us very much. All intelligent persons know that Dr. Wines has made a specialty of the study of criminals, and of institutions for their punishment and for their reform; also, of poor-houses, and of the various means employed for bringing up vicious children, and of educating poor and working children. A number of years ago, Dr. Wines was in Cincinnati in attendance upon a convention of superintendents and wardens of penitentiaries, jails, reformatories, etc., and while here, had presented to him a gold-headed cane.

We are informed that there are three systems of prison labor in the United States—1st, that in which the convict labor is managed by the prison officers themselves; 2d, that in which it is let out to contractors for so much per day to each man; 3d, the lease system, in which the work of the whole prison population is leased a certain number of years to individuals or firms, the lessee having, during that time, entire control of the food, clothing, medical attendance, etc., of the convicts. The latter is the system most in vogue in many of the Southern States, but

Dr. Wines considers the mode a bad one—the worst of all. However, he has this to say in regard to it:

“At the same time, I am free to confess that I would not favor the abolishment of the contract system so long as the present policy is continued as regards the uncertain tenure of office, and for the following reasons: 1. The successful management of the industries of the prison requires experience and business tact—qualities that can be acquired only by a long, practical familiarity with such management. 2. It would not be wise to commit the industries of a prison to its head so long as he is not only liable but well-nigh sure to be displaced on every transfer of power from one political party to the other. 3. Considering the extent and variety of the industries carried on in most of our State prisons and the frequent change of officers therein, the result of which is, that inexperienced persons are for the most part at their head, it would be unsafe to change the system of labor while the system of government remains what it is at present. 4. Consequently, in order to a safe and successful change of the prison-labor system from outside contract to State management, it will be an essential condition precedent that political control be eliminated from the government of our State prisons, and that their administration be placed in the hands of honest and capable men, and kept there.”

Dr. Wines visited the notorious Kentucky penitentiary, imprisonment in which is almost certain death to the convict, unless it be that his term is a short one, or he is humanely pardoned by the Governor, and he considers that the lease system is the prime cause of the evils from which it suffers. Those who lease the labor of convicts, following the natural, selfish instincts of human nature, endeavor to make the largest profit possible out of it. The health of convicts, therefore, is but very little looked after. Little attention is given to diet, to the personal cleanliness of the prisoners, cleanliness of the cells, and of the whole prison, proper ventilation, and the many other things that pertain to thorough hygiene. Bad food, consequently, is served; filth is permitted to generate throughout the prison, and around it outside, begetting a most fatal miasm, that spreads everywhere. So great has been the mortality at times, that the Governor has felt called upon to use his pardoning power to a degree that

under other circumstances would be regarded as most reckless.

Politics are the bane of eleemosynary institutions in this country. They are ranked among the "spoils" of party, so that as soon as one of the political parties obtain the control, all the adherents of the opposing party are put out of their places—a superintendent of a lunatic asylum, or a warden of a State prison, no difference how qualified he may have exhibited himself for his position, is displaced, that his place may be given to some adherent of the prevailing party as a reward for political services. Party services, therefore, too often are the merits sought in a candidate, and not intelligence, scientific acquirements in the case of a physician, business tact, and high moral integrity. The consequence is, that frequent changes in management is the rule. No system can be instituted and carried out. The appointee is scarcely settled down in place and ready for work—if, by chance, he should be the right man in the right place, conscientiously impressed with the feeling that he has most important duties to discharge—than he has to vacate, that some one may be rewarded whose merit consists in having performed a large amount of work for his party—that, too, oftentimes of a very corrupt character.

The Rev. Doctor shows in his work that when the labor of convicts has been managed by the prison authorities, and those constituting them have been retained in their positions during good behavior, such prisons in some instances realize a surplus over expenses; in others, meet their expenses, while some have fallen but a little short of meeting all expenditures, including salaries of officers. These variations are due to the kind of work given, in different institutions, to convicts to do. In some prisons only a single kind of mechanical work is performed.

The objects of imprisonment as set forth by Dr. Wines, we believe, are, besides punishment, and protection of society against the prisoner, while confined, his reformation. In fact, in these humanitarian times, when it is the fashion to take high grounds in motives of every kind, although conduct may not experience the same elevation, punitive purposes in imprisonment are denounced and the object of it made altogether the reformation of the criminal. But to what extent reformation may be brought about, if to any extent it may be realized at all in an individual un-

doubtedly criminally disposed, we think has not been much considered. The study of vice and crime proves, beyond a doubt, that they have their source in the constitution; and before we can make a criminal a man of integrity, the taint of them must be removed from the system.

In the *Quarterly Journal of Psychology*, published a few years ago in New York, in an article, entitled "Homes for the Friendless," we made the following remarks: "It must be evident to every one having a knowledge of physiology, that to effect any permanent change in the line of conduct of an individual, or class of individuals, which is involved in all efforts at moral reform, a change must be brought about in the character of the emotions, which must necessarily be preceded by a change in the structure of the nervous system. The first follows the second, and the second the last mentioned, as truly in the order of cause and effect as light follows upon the appearance of the unclouded sun."

But we have drawn out our article to a much greater length than we had intended. But as the Rev. Dr. Wines' book affords us a very good text for remarks upon the subject of vice and crime, which is a subject, and a highly interesting one, too, for the contemplation of the physician, we will take it up again in a future number of our journal—probably quite soon.

GOOD MANNERS.—Next to the moral attributes and learning, which a physician should cultivate, come good manners. However skillful a physician may be in his profession, he will certainly not prove a success, especially if he has competition, unless he is possessed of some of the graces of culture and good breeding. The highly cultivated Lord Chesterfield, in corresponding with his son over a hundred years ago, again and again, in his letters, urged him to acquire good manners, not unfrequently stating that they would do more in advancing a professional man in a community than knowledge in his profession. In a letter written May 27, 1748, he says: "Manners, though they may be the least of real merit, are very far from being useless in its composition; they adorn, and give an additional force and luster to both virtue and knowledge. They prepare and smooth the way for the progress of both; and are, I fear, with the bulk of mankind, more engaging than either." In a subsequent letter

to his son, of the same year, he writes: "Next to manners are exterior graces of person and address; which adorn manners, as manners adorn knowledge. To say that they please, engage and charm, as they most indisputably do, is saying, that one should do everything possible to acquire them."

We are led to these remarks by frequently observing some young physicians, of very respectable attainments in knowledge, who seem to have become impressed with the belief that coarseness of manners and bearlike behavior are admired in a medical man by the non-professional, and tend to give confidence in him. We have known such to refer, in the way of proof, to a somewhat noted practitioner of a past time, who was of exceedingly rude manners in the sickroom, and would even indulge in profane language. It may be that there has been a time when blackguardism was tolerated to secure the services of some one of imagined extraordinary skill, and may be there has been a blackguard of more than average scientific attainments in his profession; but that doctor will find that he has made a serious blunder who supposes that refined, cultivated people, at all admire rudeness in a physician. Ruffians may be pleased with it, but no other class. Even the ignorant and uncultivated are favorably impressed by a dignified deportment and polite manners—it is only such that can give confidence. A medical man should be very sure of being possessed of knowledge and professional skill far beyond any near competitor before he attempts to act the blackguard in a sickroom, and expect to be tolerated. It can only be when a person has, or is supposed to have, attainments beyond what others of the profession have, that his rude conduct will be overlooked, and even then all cultivated people pity him for his rudeness and regard him as suffering a misfortune in consequence of it.

DEATH FROM STARVATION.—A lady of this city, between sixty and seventy years of age, recently died from voluntary starvation. The case has excited very considerable local interest; and we will record what facts we have been able to learn in regard to it. During the course of the suicide the medical attendant called in was an eclectic doctor, who visited the individual daily, but it seems he made no interference in the way of preventing the

self-destruction, other than, maybe, to employ persuasion, which had no effect. One would naturally expect that in a case like this, in which the determination to abstain wholly from food was the result of mental aberration, that forcible means would have been employed to inject food into the body. It is not unusual by any means for the insane to refuse food for days; but, in such instances, it is the custom in our lunatic asylums, to pass a tube into the stomach, and then, by means of a pump or suitable syringe, to inject nourishing liquid food, as milk, or milk with eggs beaten up in it, etc. Generally the operation has to be performed but a few times when the patient takes food voluntarily, to escape from the disagreeableness of having it forced into him. In some cases, in which there are reasons to prefer it, food may be thrown into the rectum instead of the stomach. It is a well-known fact that life may be sustained a very long time when the body is nourished through the intestinal mucous membrane exclusively. Injections of aliment into the rectum is to be preferred when there are reasons to suspect organic lesions of the stomach. But, in the case of insanity, the complaint of violent pain in the stomach by the patient after food has been injected, is by no means evidence of any lesion in that organ. We have known a lunatic to become possessed of the hallucination that he had a fracture of a bone of one of his limbs, as one of his lower limbs, and when placed on his feet, after having been allowed to lie in bed a number of days, until confinement would begin to affect his health, exhibit by his screams and groans the most intense pain. But supported by a person on each side of him, and made to walk, after making a few turns up and down the hall, his hallucination of having a fractured leg would vanish, and he would continue to walk uncompelled and unaided.

From the time the lady we are speaking of ceased to take food, until she died, was *four weeks and one day*. During this time, by accident, it is stated, she swallowed two beans, a piece of potato the size of a boy's marble, and a small teaspoonful of egg. These ingesta seemed to produce the most excruciating pain. Nor during the time did she take any water or other fluid, only as we shall presently describe.

The history of the case, as we learn, is as follows: The patient had suffered greatly from chronic dyspepsia for

quite a number of years. For a year until last September her health had been considerably better, but, contracting a severe cold, congestion of the lungs was induced. Upon recovering from this trouble, the dyspepsia returned in its worst form, causing the poor woman the greatest suffering, and leading to a dangerous spasm. It was not supposed she could recover, and her relations were summoned, but the convulsions at length ceased, leaving the hallucination that her stomach was gone—"had rotted away." From that time she would neither eat nor drink, for the reason, as she said, there was no place for the food to go to. No argument or persuasion on the part of her friends had any effect in changing her belief or inducing her to take nourishment. She absolutely refused, from the information we are able to gather, which we believe to be correct, to take food or drink, and continued thus to refuse until she died.

Until a week before her decease, a spoon was dipped two or three times a day in apple jelly, dissolved in water, of the consistency of port wine, and, after being held over the tumbler until all the liquid that would had dropped off, was placed in her mouth. But during the last week even that was refused. Once in that time a little snow was placed in her mouth, which she allowed to melt, but refused to swallow. This, as is stated, was absolutely her nearest approximation to taking any liquids.

Her strength held out in a wonderful manner. Though much emaciated, she did not become helpless until within a few days of her death, and even as late as the day before she drew her lower limbs up in bed, moved her arms. She did not, until shortly before her decease, lose the sense of taste or desire for food. She would suck the teaspoon which had been dipped in the solution mentioned with greediness, and, at times, her craving for food was so strong as to cause the greatest suffering.

An autopsy of the body was made twenty hours after death, an account of which was published in the newspapers. The gentlemen conducting it were Drs. Freeman, Scudder and Maley. The two first are eclectic doctors, the latter a regular physician. Dr. Scudder is of the Eclectic College of this city, and is esteemed as possessing considerable acquirements. It is stated that the stomach exhibited no materially diseased condition. Its caliber was very much

lessened from muscular contraction—its breadth not being much greater than that of the colon. There was slight congestion of the mucous membrane. The orifices were normal. Rigor mortis was well marked. During health deceased weighed 160 pounds, after death 60. Measurement of chest, 24 inches; of abdomen, 22 inches; thigh, $7\frac{1}{2}$ inches. The whole body was greatly wasted. There was some fecal matter in the transverse colon. The entire alimentary canal from the stomach to termination presented a healthy appearance. The omentum also was healthy. The kidneys were normal. A small amount of urine was found in the bladder. The lungs, liver, spleen and uterus all presented a normal appearance. The heart was small and contained about half an ounce of dark fluid blood—the ventricles being contracted.

This case of self-inflicted starvation presents a number of very remarkable features—not the least of which is the very long time the party survived without food or drink. Another is the wonderful perseverance in her resolution to abstain from food, although suffering agony in her hunger—food at all times being within her reach, and urged by kind friends to take it.

ALUM AND IRON MASS.—On second page of cover of the MEDICAL NEWS will be noticed the advertisement of this remedy. In an article printed in the NEWS some months ago very favorable mention was made of it. It is composed of the combined medicinal substances of the water of the springs of Bedford, Virginia, obtained by very careful evaporation. In its use are obtained all the advantages in drinking the waters of the spring; and it is admitted that in the combinations of minerals by nature, oftentimes remedial effects are produced that do not follow upon any artificial combination. The mass is highly spoken of by gentlemen high in the profession as efficient in throat, skin, stomach, blood, and malarial affections. The *Virginia Medical Monthly*, in speaking of it, says, "None have a wider range of usefulness." Professor Jackson speaks flatteringly of it in the treatment of dyspepsia and chronic diarrhea; others, in hemorrhagic diseases and uterine affections. We can easily understand that it would be an efficient medicine in all cases needing a tonic and alterative remedy. Besides, it is astringent and diuretic, making it efficacious in kidney affections.

INFLUENCE OF DIGESTIVE ORGANS ON THE MIND.—The work of Conolly, the distinguished English alienist, is not in the libraries of as many physicians as it should be. A close observer and exact thinker, his book upon insanity is highly interesting and instructive. Although more than half a century has elapsed since he wrote, since which time physiology and psychology have made very great progress, yet, his keen perceptive powers enabled him to recognize many facts that many would be inclined to suppose had been only recently disclosed by the advanced condition of medicine.

Conolly fully understood how the various states of the digestive organs affect the mind, both as regards the intellectual organs and the feelings. On page 248 of his work referred to, he says: "The general dissatisfaction which so many complain of at some time or other, the state in which nothing in the prospects of the world gives pleasure or affords hope, is often but a mere result of this sort of sympathy of the brain with temporary conditions of the intestinal canal; and when the disordered state which calls up that particular sympathy is corrected, the melancholy is gone. It is mortifying to human pride to allow that good humor may be wholly put to flight by a temporary fit of indigestion; and that the power of attention may be lessened, the strength of the memory decreased, and all the luster of the imagination obscured, by a neglected state of the bowels; but the fact is too familiar to be disavowed; and even the restoration and invigoration of those powers which approach nearest what is divine, are certainly often best effected by such common means as are directed to remove the disordered states of the stomach and of the intestinal canal."

It is, indeed, rather humiliating that many of our states of mind are brought about by a disordered condition of the stomach and intestinal canal; that the conscience is more sensitive when the bowels are costive than when they are not; that the good man and woman is often relieved of a sense of unworthiness and of great apprehensions in consequence of shortcomings by the action of a dose of castor oil. An injection or an infusion of senna and salts will not unfrequently do more in the way of calming the perturbed conscience than the most eloquent discourse of a minister. Not that there is not flagrant conduct that of itself may smite one's feelings and tor-

ture the mind; but many times the melancholy mood from presumed unworthiness, and the pleasurable state from conscious rectitude, represent the bodily condition. When the great enemy of man, death, is about to take him from the world, then do we oftentimes perceive, as he is about departing, how the emotive faculties are affected by the bodily state. As the circulation in the brain grows feeble, and the blood besides is changed in its quality, we find the religious man rejoicing in the prospects of his dissolution and the glorious immortality before him, while the irreligious or very depraved one is filled with apprehension as to his future. The former now and then sees hovering about his couch angelic beings, and hears music of inexpressible sweetness, while the latter is surrounded by frightful fiends. We do not wish, by any means, to cast doubts upon the reality of the happiness of the truly pious in the act of passing out of the world, or insinuate that the testimony of the witness within himself is not competent testimony; for these conditions in the dying may be the purposes of the Almighty in dealing with men. Says Dr. Conolly: "If we had not hourly proofs of our entire dependence on a Governing Power, it might be worth while to remark on the possibility, shown to us in the curious instances where the delusion is complete, of our being so variously affected by the same external circumstances as to make our perfect happiness, if it was designed that it should be perfect here, quite consistent with all the accidents of terrestrial life. No extravagance of imagination is required to admit that the slightest possible change of the mode in which our organization is affected by external agents, might create that happier state to which men look forward amidst the trials of this, but which will probably consist of no less a change of objects than of modes of perceiving them."

There is certainly no subject more interesting than that of the influence of the body upon the mind; and of the parts of the body by which the mind—embracing the intellect and feelings—is the most affected, the digestive organs—the stomach, liver and intestinal canal—standing at the head. As the condition of these is modified by any cause, so the state of the mental undergo change.

NOTICE.—It is not often that we have reason to complain of the conduct of subscribers, unless of slowness, occasionally, in making remittances; but now and then we come across a slippery customer, who, after subscribing for the journal a year, will let us send it to him for another year, and then decline paying, on the ground that he did not order it for the second year. We desire to inform such, that, it has been decided again and again by courts, an individual is a subscriber until he pays up all dues and orders a discontinuance. A publisher may continue to send a publication, although he is told to discontinue, until all dues are paid, and recover for same. It is *prima facie* evidence of intention of fraud to permit a journal to be sent to one's address with the design of not paying for it.

SANITARY CONVENTION AT GRAND RAPIDS.—*Times and Places*.—The second convention will be held in Grand Rapids, in the Circuit-court rooms, on the 17th and 18th of February, 1880.

Sessions.—The convention will hold one session the first day, at 7 o'clock, P. M., and three sessions the second day, at 10 A. M., 2 and 7 P. M.

During each session of these conventions there will be one or more addresses or papers on some subject pertaining to public health, and of general interest; each paper to be followed by a discussion of the subject.

Officers of the Conventions.—The conventions will be presided over by a President and six Vice-Presidents; all being prominent citizens or eminent sanitarians; and there will be for each convention a resident secretary, to-wit: Rev. Geo. D. Gillespie, President; Hon. Alonzo Sessions, of Ionia, Lieut. Governor, 1st Vice-President; Hon. Henry H. Holt, of Muskegon, 2nd Vice-President; Dr. E. H. Van Deusen, of Kalamazoo, 3rd Vice-President; Mrs. S. L. Fuller, of Grand Rapids, 4th Vice-President; Rev. J. Morgan Smith, of Grand Rapids, 5th Vice-President; Dr. J. Andrews, of Paw Paw, 6th Vice-President; Dr. Arthur Hazlewood, of Grand Rapids, Secretary.

Exhibition of Sanitary Apparatus.—Manufacturers of all kinds of sanitary apparatus or appliances are to be invited to send specimens of their manufactures for exhibition at these conventions in accordance with the following regulations, namely:

(a) The Board of Health reserves the right to decline any article not deemed suitable.

(b) A full description of each article proposed to be exhibited must be forwarded to the Secretary of the convention with application for space.

(c) At these conventions there will be no charge to exhibitors for entrance fee or for wall or floor space.

(d) Exhibitors will pay all expenses of transportation, storage, placing and removal of goods, and must themselves be responsible for any breakage or damage to their articles.

(e) Every article exhibited, and every model, drawing or photograph, must bear a descriptive label, giving a detailed statement respecting its construction, use, and the price at which it can be furnished, and the name and address of the agent and the place of sale.

(f) Exhibitors may employ persons to explain their exhibits, and properly to solicit orders.

(g) The position in the hall, of articles entered by each exhibitor, will be determined by the Secretary of the convention.

(h) Exhibits will be received by the Secretary of the second convention from January 15th, 1880, to February 16th, 1880, and will be placed in the halls before the opening sessions of the conventions.

Competent judges will be invited thoroughly to examine the various articles on exhibition, and certificates of merit will be awarded to such as are deemed worthy of it.

The records of the proceedings of these conventions, together with the various addresses and papers read, and a catalogue of the articles exhibited, with the awards of the judges, will be published in the annual report of the Secretary of the State Board of Health. Reprints from that of the proceedings of these conventions may contain several pages of advertisements for which there shall be charged the following rates, namely: ten dollars per page, or six dollars per half page; the prepayment of which sums shall entitle the advertiser to ten copies of the reprint, and to receive other copies at cost.

The admission to all the sessions of these conventions shall be free.

Programmes for all the sessions of each convention will be printed and issued at an early day, with the subjects, and the names of the speakers or writers.

Invitations to be present at these conventions will be sent in the name of the State Board of Health to many prominent citizens and eminent sanitarians from abroad.

Subjects to be Presented.—1. Opening address. 2. Health of the young, as affected by schools and school architecture. 3. Conditions of inflammability, with experiments. 4. General sanitation: its importance to the public welfare, and a plea for better methods. 5. The relation of the clergy to sanitary reform. 6 The duty of the Christian in regard to the laws of health. 7. Drainage in its relation to health. 8. Physical development of children. 9. Volunteer papers.

The Secretary will be pleased to give any further information.

ARTHUR HAZLEWOOD, M. D., 92 Monroe Street,
Secretary, Grand Rapids, Mich.

A BARGAIN IN GALVANIC BATTERIES.—We have received several new, excellent galvanic batteries from the Galvano Faradic Company, which can be had at less than the manufacturers' price. The instruments of this company are the best in the market for medical purposes. They give both the primary and secondary currents—the change from one to the other is most conveniently made. They are in solid black walnut cases. Address MEDICAL NEWS.

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With regard to the former, it has been decided by the highest chemical and medical authorities that *phosphorus* should be administered *in a free state*, and in a vehicle which ensures its *perfect diffusion*, its *absolute unalterability*, and, as far as possible, its *prompt assimilation* without the gastric irritation to which the ordinary methods of exhibiting the agent give rise. It is well known that pills, emulsions, solutions in ether, chloroform, vegetable oils and resin, etc., have all failed to fulfill one or more of these conditions. Even an ordinary solution of phosphorus in cod-liver oil would not answer the purpose in all respects. We claim, however, that PHOSPHOROLE completely satisfies all the conditions. From the method of preparing it, in an atmosphere of dry carbonic acid, the phosphorus is *entirely dissolved without oxidation*, and by our mode of manipulation a *positive uniformity of strength* is ensured. It is then promptly bottled and sealed, and its *stability and permanence* thus secured. The exact amount of phosphorus in each dose is known, its efficiency is ensured, and the irritant effects upon the stomach are reduced to a minimum by the blandness of the oil. As a means then of administering *phosphorus* in the many cases in which it is indicated as a *nervous tonic and stimulant*, it is claimed that PHOSPHOROLE is the best attainable in the present state of our knowledge.

The value of *cod-liver oil* in phthisis is so familiar to the physician that it is needless to dwell upon it. But the value of *phosphorus* is also universally recognized in this disease, especially when complicated with nervous derangements. The *combination* of the two therefore furnishes a more effective form for the administration of cod-liver oil in the great majority of cases in which that remedy is indicated, and one which will at once commend itself to the profession.

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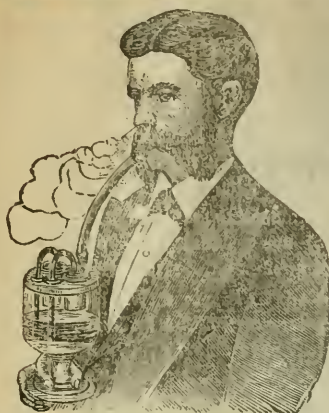
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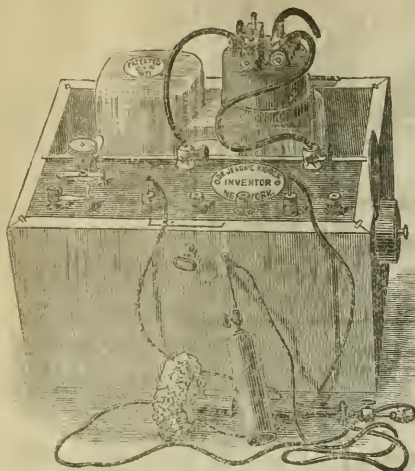
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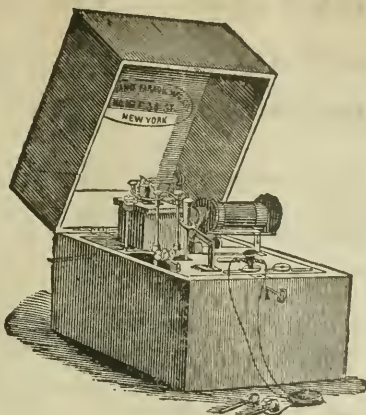
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Speaking of HORLICK'S FOOD: "Being carefully prepared, according to Liebig's Formula, by Chemists fully competent, it possesses certain advantages, such as quick and easy preparation and a pleasant flavor, and is therefore highly esteemed by those who have used it." [Page 53 of the fourth edition of a *Treatise on Diseases of Infancy and Childhood*. By J. Lewis Smith, M.D., etc.—1879] Also, speaking in another place [page 647] of artificial food for infants, especially those suffering from intestinal catarrh, he says: "I prefer Liebig's, especially **HORLICK'S** preparation of it."

Report from Bellevue Hospital, New York.

In *The Hospital Gazette* for February 6th, 1879 [page 108] Dr. E. Hochheimer makes a report from BELLEVUE HOSPITAL of a case of Infantile Paralysis, which was followed by an exhausting diarrhoea—Speaking of the treatment, he says: "Her condition continued unchanged for the next three weeks; she was put upon a diet consisting principally of milk, but the diarrhoea persisted in spite of opiates and astringents."

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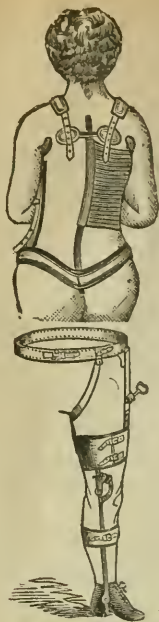
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THE REGULAR SESSION will begin on Wednesday, October 1, 1879 and end about the 1st of March, 1880. During this Session, in addition to four didactic lectures on every week-day except Saturday, two or three hours are daily allotted to clinical instruction.

THE SPRING SESSION consists chiefly of recitations from Text-Books. This Session begins on the 1st of March and continues until the 1st of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

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
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MALTINE "contains, unimpaired and in a highly concentrated form, the whole of the valuable materials which it is possible to extract from either malted Wheat, malted Oats, or malted Barley." PROF. JOHN ATTFIELD, London.

"Wheat must be considered as by far the most nutritious of all grains."—*Physiology of Man.* AUSTIN FLINT, JR.

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OUR experience of many years as Manufacturing Pharmacists has brought us in daily contact with those engaged in prescribing, and has afforded us advantages for study, experiment and practical development, which have engaged our most critical attention in perfecting new and more efficacious agents for physicians' use in the control and subjection of disease; and we assure the Medical Profession that in no instance shall we attempt to arrest their attention except we have some production worthy of their highest consideration.

Before we began the manufacture of MALTINE, we analyzed the various Extracts of Malt manufactured in this country and Europe. We found that many of them had a burnt taste and smell, and a dark appearance, and were deficient in many essential elements that they should contain, owing to the excessive heat employed. Most of these preparations had probably been evaporated, or the grain mashed, at a temperature of 212° Fahr., and consequently the Albuminoids and Diastase were almost entirely destroyed, and the other nutritive properties much impaired. This can not be otherwise when the German formula is followed, for it directs that the extract shall be heated to 212° Fahr. (*see formula for Malt Extracts, German Pharmacopœia, fol. 124*). This led us to a series of experiments to ascertain whether a preparation could not be produced that would contain the nutritive properties of the grain unimpaired. Further research developed the fact that malted Barley was deficient in most of the essential elements of nutrition, with the exception of mineral matters, or bone producers.

These experiments led us to the production of an extract from malted Barley, Wheat and Oats, which we call MALTINE, for brevity, and which contains all the elements of nutrition in the proportions required by the human organism, unimpaired by heat; our evaporation being conducted *in vacuo* at 110° Fahr.

MALTINE is rapidly taking the place of Extracts of Malt in Europe as well as in this country, and will unquestionably be used far more extensively throughout the world by the Medical Profession.

We are confident that a practical test of MALTINE will convince any practitioner that we justly make the following claims, viz:

First: That Wheat and Oats are much richer in alimentary principles than Barley, and that it is only in a combination of these cereals, in the proper proportions, that a perfect preparation can be produced.

Second: That our process for extracting the nutritive elements unimpaired is far superior to the German.

Third: That MALTINE possesses three times the nutritive and therapeutical value of any Extract of Malt in the market.

Fourth: That it is the only perfect food remedy ever offered to the Medical Profession.

From our experience during the past fifteen years, in closely watching the success of old and new remedies among the Medical Profession, we feel the utmost confidence in claiming that MALTINE and its compounds can be used with more positive results than any preparation now known, in cases of Dyspepsia attended with general Debility, Imperfect Nutrition and Deficient Lactation; Affections of the Lungs and Throat, such as Phthisis, Coughs, Colds, Hoarseness, Irritation of the Mucous Membranes, and Difficult Expectoration; Cholera Infantum and Watery Diseases of Children and Adults; Convalescence from Fevers, General and Nervous Debility, and whenever it is necessary to increase the vital forces and build up the system.

MALTINE, and all productions of our house, are kept strictly and invariably in the hands of the Medical Profession.

We guarantee that MALTINE will keep perfectly in any climate, and at any season of the year. *Faithfully yours,*

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During the past year we have received nearly one thousand letters from the Medical Profession in this country and Great Britain, referring to the therapeutic value of Maltine: their character is indicated by several extracts which we present below.

BALTIMORE, MD., Jan. 20th, 1879.

We have realized decided benefit in a large number of cases treated in the City Hospital, and at the Dispensary connected with it, from your preparations of Maltine. Many persons will welcome them as most efficacious and palatable substitutes for Cod Liver Oil, and as covering a wider range of application.

S. WESLEY CHAMBERS, M.D., Resident Physician, City Hospital.

BALTIMORE, MD., Jan. 20th, 1879.

We take pleasure in saying in behalf of your preparations of Maltine, that they have fully come up to the measure of your representations. They have given us the greatest satisfaction. We have used them extensively to the great benefit of our patients.

DAVID STREETT, M.D., Resident Physician, Maternite Hospital.

LOUISVILLE, KY., July 11th, 1879.

I am using Maltine with Pepsin and Pancreatin in my family, and am exceedingly pleased with its results. Professor Flint, of your city, whom I highly esteem, has been consulted about the case and knows the solicitude I have had about it. The above preparation in Sherry, after meals, has been productive of great benefit. I am using it in the City Marine Hospital, the Kentucky Infirmary for Women and Children, and in my private practice, and am much pleased with the results obtained.

T. P. SATTERWHITE, M.D.

JACKSON, MICH., October, 1878.

In its superiority to the Extract of Malt prepared from Barley alone, I consider Maltine to be all that is claimed for it, and prize it as a very valuable addition to the list of tonic and nutritive agents.

C. H. LEWIS, M.D.

ST CHARLES, MINN., March 23rd, 1879.

In conditions of Anæmia, in convalescence from severe and protracted disease, especially in chronic cases where there is great general debility, and in the enfeebled condition of aged persons, I have learned to rely on Maltine, nor in any instance have I been disappointed of good results, therein forming a marked contrast, so far as my experience goes, to preparations of Malt, which I had used previously, and had abandoned the use of them when my attention was called to Maltine.

C. R. J. KELLAM, M.D.

36 WEYMOUTH STREET, PORTLAND PLACE, LONDON, }
May 30th, 1879. }

I am ordering your Maltine very largely.

LEONOX BROWN, F.R.C.S., Sen. Surg., Centl. Throat and Ear Hosp., etc.

75 LEVER STREET, PICCADILLY, MANCHESTER, }
January 16th, 1879. }

I have used your Maltine pretty extensively since its introduction, and have found it exceedingly useful; particularly in cases where Cod Liver Oil has not agreed, have I found the Maltine, with Beef and Iron, most valuable.

J. SHEPHERD FLETCHER, M.D., M.R.C.S.

EDDIE CROSS HOUSE, ROSS, March 8th, 1879.

I am very pleased to bear testimony to the great value of Maltine. I prescribe it extensively and with the best results, specially in anæmic conditions of the system with much stomach irritability, which it seems to allay very speedily.

J. W. NORMAN, M.B., M.R.C.S.

CHEMICAL REPORTS ON MALTINE.

BY R. OGDEN DOREMUS, M. D., LL.D.

Professor of Chemistry and Toxicology, Bellevue Hospital Medical College;
Professor of Chemistry and Physics, College of the City of New York.

NEW YORK, April 17th, 1879.

I have visited the works at Cresskill, on the Hudson, where MALTINE is prepared, and spent portions of two days in witnessing the chemical processes for making the same. I was particularly impressed with the thorough cleanliness observed, as well as with the completeness of the apparatus employed for accomplishing the desired result—from the first treatment of the grains, to the concentration of the liquid product by evaporation in vacuo. The operation is effective in extracting the whole of the nutritive constituents of the grains of malted Barley, Wheat and Oats, with but a slight residue, and is the most complete method yet devised, with which I am acquainted, for accomplishing this object.

MALTINE is superior in therapeutic and nutritive value to any Extract of Malt made from Barley alone, or to any other preparation of any one variety of grain. From a chemical and medical standpoint, I can not commend too highly to my professional brethren this unique and compact variety of vegetable diet and remedial agent, nutritive to every tissue of the body, from bone to brain.

Respectfully,

R. OGDEN DOREMUS.

BY PROF. JOHN ATTFIELD, F.C.S.

Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain;
Author of a Manual of General Medical and Pharmaceutical Chemistry.

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October 28th, 1878. }

To Messrs. Reed & Carnrick :

GENTLEMEN:—I have analyzed the extract of malted Wheat, malted Oats and malted Barley, which you term MALTINE. I have also prepared, myself, some extract from these three malted cereals, and have similarly analyzed it, and may state at once that it corresponds in every respect with the Maltine made by myself. As regards the various Malt Extracts in the market, I may remark that your MALTINE belongs to the non-alcoholic class, and is far richer, not only in the directly nutritious materials, but in the farina digesting Diastase. In comparison, your MALTINE is about ten times as valuable, as a flesh former; from five to ten times as valuable, as a heat producer; and at least five times as valuable, as a starch digesting agent. It contains, unimpaired and in a highly concentrated form, the whole of the valuable materials which it is possible to extract from either malted Wheat, malted Oats or malted Barley.

Yours faithfully,

JOHN ATTFIELD.

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MALTINE with Cod Liver Oil and Phosphates.

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MALTINE with Phosphates.

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MALTINE WINE.

MALTINE WINE with Pepsin and Pancreatine.

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MALTINE is now in the hands of the wholesale trade throughout the United States.

We guarantee that MALTINE will keep perfectly in any climate, or any season of the year.

Faithfully yours,

REED & CARNRICK, NEW YORK.

TO PHYSICIANS.

THE scarcity and high prices of Cinchona barks and Sulphate of Quinia, and the prospect of only a slight reduction in these prices, makes the present a favorable opportunity of calling the attention of the profession to the *combination of all the bark alkaloids*.

Much attention has been given to this subject in Europe and India.

The growing appreciation by the medical profession of the United States of

CINCHO-QUININE

is due to the fact that it retains the important alkaloids IN COMBINATION, — a combination which in practice is *preferable to perfect isolation or separation of these alkaloids*.

In addition to its superior efficacy as a tonic and anti-periodic, it has the following advantages, which greatly increase its value to physicians: —

1st, *It exerts the full therapeutic influence of Sulphate of Quinine, in the same doses, without oppressing the stomach, creating nausea, or producing cerebral distress, as the Sulphate of Quinine frequently does; and it produces much less constitutional disturbance.*

2d, *It has the great advantage of being nearly tasteless. The bitter is very slight, and not unpleasant to the most sensitive, delicate woman or child.*

3d, *It is less costly: the price will fluctuate with the rise and fall of barks, but will always be much less than the Sulphate of Quinine.*

4th, *It meets indications not met by that Salt.*

The following well-known Analytical Chemists say: —

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"I have tested CINCHO-QUININE, and have found it to contain quinine, quinidine, cinchonine, cinchonidine.

F. A. GENTH,

Professor of Chemistry and Mineralogy."

"LABORATORY OF THE UNIVERSITY OF CHICAGO, Feb. 1, 1875.

"I hereby certify that I have made a chemical examination of the contents of a bottle of CINCHO-QUININE; and by direction I made a qualitative ex-

amination for quinine, quinidine, and cinchonine, and hereby certify that I found these alkaloids in CINCHO-QUININE.

C. GILBERT WHEELER,

Professor of Chemistry."

"I have made a careful analysis of the contents of a bottle of your CINCHO-QUININE, and find it to contain quinine, quinidine, cinchonine, and cinchonidine.

S. P. SHARPLES, *State Assayer of Mass."*

TESTIMONIALS.

"WELLFLEET, MASS., Nov. 17, 1876.

"I have used CINCHO-QUININE, and can say without any hesitation it has proved superior to the sulphate of quinine.

J. G. JOHNSON, M.D."

"MARTINSBURG, Mo., Aug. 15, 1876.

"I use the CINCHO-QUININE altogether among children, preferring it to the sulphate.

DR. E. R. DOUGLASS."

"LIVERPOOL, PENN., June 1, 1876.

"I have used CINCHO-QUININE, obtaining better results than from the sulphate in those cases in which quinine is indicated.

DR. I. C. BARLOTT."

"RENFROW'S STATION, TENN., July 4, 1876.

"I am well pleased with the CINCHO-QUININE, and think it is a better preparation than the sulphate.

W. H. HALBERT."

"ST. LOUIS, Mo., April, 1875.

"I regard it as one of the most valuable additions ever made to our materia medica.

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